Amateur Radio

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Number 3
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100 YEARS 1910 - 2010

Amateur Radio

Volume 78, Number 3
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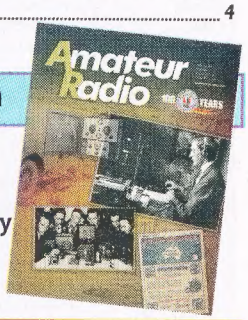
Our cover this month



In line with the theme for this year, the cover this month celebrates the beginnings of the WIA a century ago. Design by Ivan Smith.

Contributions to Amateur Radio
Amateur Radio is a forum for WIA members' amateur radio experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are welcome and will be considered for publication. Articles attached to email are especially welcome. The WIA cannot be responsible for loss or damage to any material. Information on house style is available from the Editor.

Back Issues
Back issues are available directly from the WIA National Office (until stocks are exhausted), at $8.00 each (including postage within Australia) to members.

Photostat copies
If back issues are unavailable, photocopies of articles are available to members at $2.50 each (plus an additional $2 for each additional issue in which the article appears).

Disclaimer
The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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Editorial

Peter Freeman VK3PF

Not the best start to the year

We offer our apologies for the errors in the table of contents last month. My only excuse is that we were in a rush to meet our print deadline. We checked the contents page for spelling errors, but neglected to double check the links to the page numbers!

We missed that two or three paragraphs went missing in the VHF/UHF column. I extend our apologies to David VK3HZ and his contributors. On becoming aware of the omission, I added the missing material to the *AR* magazine page on the WIA website. I note that David has added the lost material in his column this month.

More tweaks to *AR*

You will have noticed the new paper inside the magazine's last issue. Through our publishing house Newsletters Unlimited (NU), we have changed both the printer used and the paper – to a heavier, whiter stock. We are still using the same technology as used to print newspapers.

We hope that everyone is happy with the quality of printing and paper with our new printer. Personally, I noted some variation in the black ink density, but such variation is common when printing using newsprint technology. We hope that the new paper has resulted in a cleaner appearance.

You will have noticed more changes this month! A new banner style has been adopted, whilst maintaining some links to our past. We have a very clean cover design featuring the new banner for this month, celebrating the founding 100 years ago of the WIA.

We welcome your comments on the new design features of **our** magazine – *AR* belongs to all of our readers. The Publications Committee simply does the background work to ensure that we continue to have a magazine. We also thank Ivan who designed the new masthead and internal layout, and John and his team at NU for their efforts to institute the new design. Please forward any comments (either brick bats or bouquets) to the Secretary of Publications Committee, Ernie VK3FM at armag@wia.org.au

Photographs submitted to *AR*

One of the great needs of *Amateur Radio* magazine is excellent photographs to accompany articles. They give readers a stimulus to open, peruse and enjoy the magazine, especially if they appear on the cover.

But excellent photographs, ones that will **publish well**, are extremely difficult to take for the average photographer, the category within which most radio amateurs fall. The need for crystal clear images, lack of shadow, a sensible composition and file size (image resolution) are all issues with which the Publications Committee must wrestle on almost every article submitted. Most photos submitted are satisfactory, but we receive extraordinarily few excellent ones – and anything else but excellent photos can introduce problems in the publishing process.

We love excellent photographs with your articles, and, even better, our readers are letting us know how much they appreciate them. But, we need you, the authors of our many excellent contributions to STOP, think about the photo, and then to put as much effort into producing a quality (excellent!) shot as you obviously do in developing your article. PLEASE HELP US.

We will be updating the guidelines for authors, covering both the text (and style) submitted and photographs that accompany articles (or even individual photos that might be considered for publication). Keep an eye on the "Contributing material" section of the *AR* portion of the WIA website and a future issue of *AR* (hopefully in April) for more detail.

Cheers, Peter VK3PF **ar**

WIA comment

Michael Owen VK3KI

Looking at the Annual Report

We circulate with this issue of *Amateur Radio* **the Annual Report and Notice of Meeting for our Annual General Meeting and Open Forum to be held at Canberra on 29 May 2010.**

Also enclosed are details of the activities associated with that weekend, celebrating 100 years since the meeting in Sydney that founded the WIA, and the registration form you can use, if you do not register on-line.

The weekend will be truly memorable, and I am expecting very many amateurs to join us so please register and book your hotel early.

Rather than talk about history, I would like to look at the Financial Statements and the Director's Report and think a little about the future.

In their Report for the previous year the Directors said:

The Directors are aware of the current global financial crisis and recognise that its effects in this country may impact on WIA's income from advertising, interest and membership. The Directors are unable to express any opinion in a more quantified way on the likely impact on the business of the Institute, but do recognise the possibility of an adverse impact.

Was that concern justified?

The surplus for the 2009 year was $10,656 as against a surplus of $66,443 for 2008, a significant reduction.

A reduction in surplus is not necessarily a bad thing. The purpose of the WIA is not to make a profit, but to use its funds for the benefit of amateur radio and its members. The accounts show that the funds are meeting the day to day operations and also being spent for the benefit of amateur radio and the members.

As the Report points out, a number of factors influenced the result.

Lower interest rates during the 2009 year certainly did impact on the WIA. In the 2009 year interest received was $32,539 as against $42,651 in the 2008 year before, a drop of $10,112.

We were also paying a higher rent for the full year, having moved to larger premises in Bayswater toward the end of the 2008 year. While the rent is greater, at last we have space to store things, such as the QSL Collection and the books for the Book Shop, now moved to Bayswater from Sydney. And, as everyone now works in a pleasant place, efficiency is improved.

During the year we lost some advertising revenue. One major advertiser was not able to support us during 2009 but has returned at the start of 2010.

The WIA's direct income from advertising will be greater in the 2010 year as the WIA is itself taking over the responsibility for advertising. All of the advertising revenue will come to the WIA, not just the 70% when someone else looks after advertising.

Happily the Directors were wrong a year ago about the most important thing, membership. At 31 December 2009 there were 4,541 members, an increase of 165 over the year before.

A small increase, but we have not broken the chain of steady but small increases each year in membership.

Quite apart from the effects of the global financial crisis, other factors also had their impact on the year.

One was the Deed between the WIA and the Commonwealth, by which the WIA continues to manage amateur examinations, but now also issues certificates of proficiency and manages callsigns.

The Deed requires the WIA to charge for the services it provides pursuant to the Deed on a cost recovery basis, and this meant that, with one exception, examination costs increased.

That meant that for almost the whole 2009 year, membership subscriptions and other income was not subsidising the WIA's Examination Service.

Fear was expressed by some WIA Assessors and clubs that the assessment cost increases would dramatically reduce the number of people seeking amateur qualification. As can be seen from the Director's Report, in 2009 1,303 assessments were conducted compared with 1,228 in 2008. So, that fear turned out not to be justified.

Currently, as required by the Deed, the WIA is reviewing the costs of the examinations, certificates of proficiency and callsign management, because if there is more than a 10% difference in the cost of the service as against what is charged for the service, the cost must be increased or reduced.

Another factor which affects the WIA's 'bottom line' is subscription rates. These were last set in May 2004 and have not been increased despite a rise in CPI of at least 16%.

Let me sum up what seems to me to emerge from the matters discussed.

I believe that the last year has been successful in financial terms. Yes, the surplus was less than the year before, but that is not necessarily a bad thing and is easily explainable. The fact that membership continues to increase is reassuring.

While we need to look at catching up with the cost of living increases, slightly higher interest rates and pulling back the advertising to the WIA will also help for the 2010 year.

While we can never afford to be complacent, I think we can look forward to this year, 100 years since the meeting in Sydney that resulted in the formation of the Wireless Institute of Australia, with some confidence.

It would be a mistake to try and measure the health of amateur radio in Australia by looking at the bottom line of the WIA's accounts. But I believe the health of the WIA may be a good indicator. **ar**

WIAnews

Ron Bertrand Steps Down

Ron Bertrand VK2DQ, a WIA director since May 2008, had decided not to seek re-election and so his term would have expired at the end of the AGM in May. Ron has now indicated that, due to health reasons, he wished to retire earlier and the Board has accepted his resignation as a director of the WIA from 1 February 2010.

The Board expressed its regret and acknowledged the great contribution Ron has made to amateur radio and the WIA, particularly in the examination field.

Ron worked extensively on behalf of the WIA with ACMA in the formulation of the syllabi for the various levels of amateur qualification and as a Nominated Assessor, conducting many special assessments.

Result of Nominations for Director

The WIA Returning Officer, Chris Chapman VK3QB, has advised that only one new nomination for director of the WIA was received, namely Christopher Platt VK5CP.

In accordance with the Election Regulations, he had declared Phil Wait VK2ASD, Bob Bristow VK6POP and Chris Platt VK5CP elected unopposed as directors of the WIA.

Chris was first licensed as VK3NCP in 1983, and VK3KCP in 1994. He moved to South Australia in 1998, and is a member of the Adelaide Radio Experimenters Group. He is a WIA Assessor.

He is part of the management team of a mining industry employer organisation, and holds degrees in Law and Arts. He brings to the WIA significant experience in business, law and lobbying.

His directorship commences at the conclusion of the WIA's Annual General Meeting on Saturday 29 May 2010.

WIA Board appoints new Director

The WIA Board has, in accordance with the WIA's Constitution, appointed Philip Adams VK3JNI a director following the resignation of Robert Broomhead VK3DN, previously announced. Phil's appointment by the Board is for the balance of Robert's term, which ends with the 2011 AGM.

Phil's background is technical, and he has recently completed various business qualifications. First licensed in 1985 Phil has been a WIA member since. He was appointed a WIA Assessor in 2005 and a WIA Nominated Assessor last year.

Since 1977 he has been a Scout leader, most recently as Training Officer with the Scout Radio and Electronics Service Unit (Victoria). He is a CFA Volunteer Firefighter with over 30 years experience, holding Wildfire and Low Structure Certifications.

As the WIA addresses the issues of emergency communications and seeks to attract younger amateurs, Phil brings a mix of valuable experiences, including firefighting and extensive experience of working with young people, .

Special event day VI3KIAH

The Yarra Valley Amateur Radio Group held a special event station on 7 February 2010 to recognise the efforts of Amateur Radio operators and others during the February 2009 Victorian bushfires. Many radio amateurs were impacted by the fires and many others provided services in the form of emergency communications operators.

The station operated between 2 pm and 8 pm on February 7th 2010 as this period was when the fires were at their worst in the Kinglake Ranges, Murrindindi, Bunyip, Churchill, Bendigo and other areas across Victoria.

Kinglake was chosen for its significance during the fires and their aftermath. An added bonus was that the Frank Thompson Reserve in Kinglake is a great radio operating location.

The call sign suffix used, KIAH, is an aboriginal word for 'beautiful place'. This description certainly applies to Kinglake.

Nearly 400 contacts were made over the six hours. All States and Territories except VK0 and VK9 were worked.

A special QSL card will be provided for those who were contacted and who send a stamped addressed envelope to YVARG, PO Box 346, Healesville Vic. 3777.

New Macedon Ranges Amateur Radio Club

The Macedon Ranges Amateur Radio Club is 'full steam ahead' for its first meeting on 20 March. The club commenced formation in November last with a steering committee of local amateurs with a combined 100 years licensed experience.

The committee led by Graeme McDiarmid VK3NE and Peter Willmott VK3TQ, is ably assisted by Peter Wolfenden VK3RV, Richard Hoskin VK3JFK, Colin Smith VK3YWY and Ron Burman VK3ZJ.

The new club, VK3RA will hold a weekly net on the VK3RMM 2 m VHF analogue repeater on Wednesdays at 8 pm. The first net is on Wednesday 24 March. Net controller will be Peter VK3TQ and all interested participants from the Ranges and beyond are invited to participate. The net will move to VK3RMM 70 cm D-STAR repeater at 9:00 pm, where it is connected to the Australian 3B reflector.

New Macquarie University Amateur Radio Club

A new amateur radio club is forming at Macquarie University in Sydney. Students and staff are invited to join, to promote amateur radio activity at Macquarie University.

Enquiries from the local community are also welcome. Macquarie University is a centre of excellence in electronic, telecommunications and wireless engineering.

Contact Adam VK2JSI by email, VK2JSI@MUARC.ORG or call 0415371990. See also the Facebook page of the Macquarie University Amateur Radio Club, www.muarc.org

ar

Part 2 Organised amateur radio takes shape

An Arena of Wonder – QSP

Peter Wolfenden VK3RV

The account of the early years of organised amateur radio in Australia continues with the next three sections. See the January/ February issue of Amateur Radio for the first instalment.

4. Organised amateur radio takes shape

Although there are anecdotal reports that the Wireless Institute of Victoria was formed in 1909, to date no firm evidence can be found to support this proposition (1).

The Postal Electrical Society was formed in Melbourne in late 1908. H.W. Jenvey, of earlier wireless communication fame, was its first president. The object of the society was "the advancement of Postal Electrical Engineering in all its phases and for the instruction of members on relative matters of a technical nature".

With such a broad scope, the society would surely have considered "wireless telegraphy". This could help explain reports of an earlier Wireless Telegraphy Society being established in Melbourne (2, 6).

However, we do know that on 11th March 1910, the Institute of Wireless Telegraphy of Australia was established in Sydney and that "Telegraphy" was soon dropped from the name (3). The initial meeting was held at the Hotel Australia in Martin Place, the site of the current MLC Centre.

Placing this date into context, it was about 13 years before regular broadcasting started in this country and was over a year before The Marconigraph journal (which became Wireless World three years later), was published by Marconi's Wireless Telegraph Company. The Australian publication The Wireless Weekly did not start until August 1922.

The Daily Telegraph of 12th March 1910 reporting on that inaugural meeting stated: "Every experimenter was at the beck and call of the Military, Naval and Postal authorities and was allowed no legal redress if departmental officers thought he was breaking the rules". Another major issue experimenters had with the authorities at that time was the cost of their licences. "Why should we have to pay three Guineas ($6.30; or about $360 in today's value) for the use of the air, so far as experimenters are concerned? The aerial navigation experimenters are charged nothing."

The chairman of the meeting, George Taylor, proposed: "the formation of an institution amongst the experimenters and enthusiasts in wireless for their mutual benefit." (4) During a radio interview in New Zealand during the 1960s, Wally Hannam (later XQI, 2YH, VK2AXH), the Institute's first secretary, refers to the Wireless Institute of New South Wales and stated that the initial meeting came about as a result of public interest in his wireless display which was part of an aeronautical exhibition organised by George Taylor (5).

The Sydney Morning Herald of the 14 March also reported on the meeting. The chairman, Mr. George Taylor, "pointed out that investigations of wireless were today on the verge of an arena of wonder .... they were like explorers of a strange country, where every step was a discovery... there was a need of mutual co-operation between investigators to avoid making the same mistakes,..." He then went on to formally propose the formation of the institute. Refer Photo 1:

Mr Hannam "in seconding the motion, gave his experiences in endeavouring to secure fair play in his investigations [in wireless], and referred to the disadvantages private operators were at present labouring under." (6)

In a 1920s article about the early days of the Institute in Sydney, President Charles Maclurcan (2CM) refers to the "Wireless Institute of New South Wales as the first Technical Radio Association to be formed within the British Empire...." (7).

A similar organisation was formed in Melbourne. Initially referred to as the Wireless Telegraphy Society in newspaper reports, the name adopted at the inaugural meeting was the Amateur Wireless Society of Victoria (11).

Convened by well known city retailer P.H. McElroy of Homecrafts on November 30 1911, it had 50 enthusiasts present at the Esperanto Hall where it was decided "to form a Society so as to bring together all gentlemen who are interested in Wireless Telegraphy and by the exchange of views to encourage and assist experiment in this extremely interesting branch of science" (12) (Photo 2).

INSTITUTE OF WIRELESS TELEGRAPHY.

The Institute of Wireless Telegraphy of Australia was inaugurated on Friday at a meeting at the Australia.

Mr. George A. Taylor, who was chairman, pointed out that investigations of wireless were to-day on the verge of an arena of wonder. They were like explorers of a strange country, where every step was a discovery. But as success could only be achieved after many failures, there was need of mutual co-operation between investigators to avoid making the same mistakes, and to climb together when any successful discovery would be achieved. The time was approaching when this age would not again have the stigma of a Waratah going out into the unknown without a wireless connecting link. There was further necessity for the formation of the institute to protect legitimate experimenting. He proposed the formation of the institute.

Mr. Hannam, in seconding the motion, gave his experiences in endeavouring to secure fair play in his investigations, and referred to the disadvantages private operators were at present labouring under.

The motion was supported by Mr. Pike, and carried unanimously.

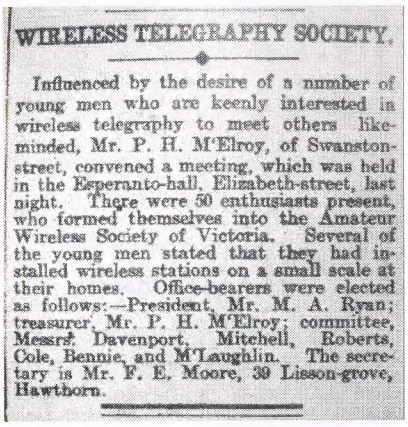
The following provisional committee was formed to arrange working conditions for the institute:—Major Fitzmaurice, Captain Cox-Taylor, Major Rosenthal, Dr. Brissenden, and Messrs. Hannam, Pike, Bartholomew, Gosche, R. Leverrier, H. Leverrier, A. Garnsey, F. Cleary, and the chairman.

Photo 1: A report of the initial 'Institute of Wireless Telegraphy of Australia' meeting in the Sydney Morning Herald, 14 March, 1910.

On May 1st 1913, the society changed its name to the Wireless Institute of Victoria, also destined to become the Wireless Institute of Australia, Victorian Division. It is interesting to note that Malcolm Perry, secretary of the NSW WI was present at that meeting. (8, 9, 10, 11, 12).

Queensland followed in early 1912 when The Wireless Institute of Queensland was formed (13). On 29 February 1919, the inaugural meeting of the Queensland Division of the WIA was held at the Brisbane Chamber of Commerce (14) (Refer Photo 3).

The West Australian Radio Club was established in 1913, changing its name in June 1914 to West Australian Institute of Radio and Scientific Experimenters (15). On 3 November 1919, the name Wireless Institute of Australia, Western Australia Section was adopted (14).



WIRELESS TELEGRAPHY SOCIETY.

Influenced by the desire of a number of young men who are keenly interested in wireless telegraphy to meet others like-minded, Mr. P. H. M'Elroy, of Swanston-street, convened a meeting, which was held in the Esperanto-hall, Elizabeth-street, last night. There were 50 enthusiasts present, who formed themselves into the Amateur Wireless Society of Victoria. Several of the young men stated that they had installed wireless stations on a small scale at their homes. Office-bearers were elected as follows:—President, Mr. M. A. Ryan; treasurer, Mr. P. H. M'Elroy; committee, Messrs. Davenport, Mitchell, Roberts, Cole, Bennie, and M'Laughlin. The secretary is Mr. F. E. Moore, 39 Lisson-grove, Hawthorn.

Photo 2: A copy of the Melbourne Argus report on the 'Amateur Wireless Society of Victoria' meeting on 30 November, 1911.

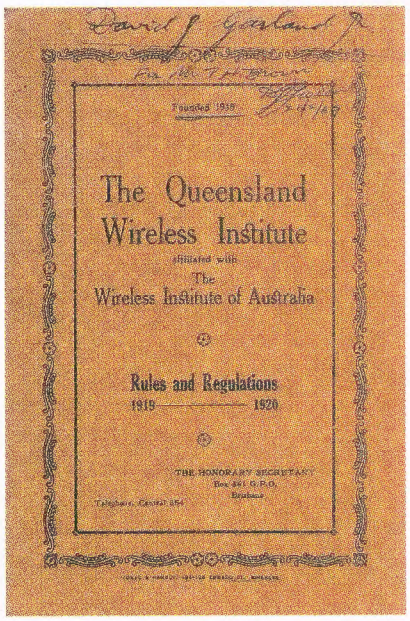


Photo 3: The cover of 'The Queensland Wireless Institute' Rules and Regulations 1919-1920.

Experimenters in South Australia formed a branch of the WIA in November 1919, initially adopting the rules of the NSW section of the Institute. It was known as the South Australian Section of the Wireless Institute of Australia. By December it had rescinded the previous constitution (based on NSW) and adopted its own draft constitution (15, 16, 17).

Although there was experimental activity in Hobart prior to 1901, the Tasmanian Division of the WIA was not formed until June 1923, in Hobart. The Launceston Wireless Club was granted affiliation in October 1923. The re-organised local Wireless Institute headquarters moved to Launceston in September 1925 (14, 15, 16).

There were possibly other smaller, autonomous groups in existence prior to some of those listed above; however this article attempts to trace the lineage of the WIA.

Clubs generally came later and there were many of them! Most were made up of young men and teenagers, and were built around the new interest of broadcast listening. Those worthy of mention include: Waverley Amateur Radio Club (now Society), NSW (1919) (extant), Brighton and District Radio Club, Vic. (1923), Essendon Radio Club, Vic. (1923), Blackwood R.C. (later Adelaide Hills Amateur Radio Society (1924) (extant), Port Adelaide and Suburban Amateur Radio Club, S.A. (1924).* (Refer Photo 4).

At the December 1925 meeting of the Delegates Council (NSW WIA), eleven clubs were represented. They were Concord, Croydon, Illawarra, Leichhardt, Marrickville, Mosman, Newcastle, South Randwick, Strathfield, Wahroonga and Waverley. One of the topics discussed was the 'howling valve nuisance' and whether clubs should be involved with tracking down the offending broadcast receivers (20).

The earliest reference to possible radio clubs (other than the Wireless Institutes in Sydney and Melbourne) are at Wesley College, XJDY, and The Church of England Grammar School, XJAD, both located in Melbourne.

Further research needs to be done on these two "clubs". The 1914 Call book lists both, together with an operator/ sponsor name which of course could simply refer to a licensee who resided and operated from the school, perhaps using wireless as part of a science

Photo 4: Members of the 'Waverley Radio Club' shown 'Listening in'. Australasian Wireless Review, first edition, January 1923, WIA Archive (WIAA).

course. Another listed is Rev. Father O'Reilly of Bathurst, NSW, as XACI. In 1904, he conducted experiments in the Bathurst area at St. Stanislaus College (8, 15).

Although not a club as such, a group of students at The Stawell School of Mines (Vic) convinced a teacher who was a licensed experimenter before WWI, to teach them all about radio. This he did, including building receiving and transmitting equipment during the war - both base and portable! The School thought the Navy had granted permission for all of these activities. Sometime after the war it was learnt that this was not the case! (21) Refer Photo 5.

The Amateur Wireless Society of Victoria called for a crest design from members. On 19 November 1911, Mr Davenport's design was adopted. The Secretary was instructed to have a printer's block made incorporating the salient features of the design. Photo 6.

Photo 7 and 8 date two clubs to at least as far back as 1923.

*These are the earliest published dates found. Some clubs could have started a year or so earlier.

5. Interference becomes the challenge

From that very first meeting 'of like minded people' at the Hotel Australia, the forebears of the WIA attempted to abide by the raison d'être, that is, to represent all amateur experimenters to the authorities. Licence fees and 'fair play' were contentious matters discussed at that initial meeting (4, 5).

During 1913, major issues relating to interference experienced by official (Government) stations almost caused the annihilation of experimental stations both here in Australia and in New Zealand, where experimenters were closed down for some time. D. Garland (later to become a WIA councillor in Queensland), in a letter to the Wellington Dominion, newspaper of 11 September 1913 queried: '... There are many stations continually working in England, yet they are not 'jammed' by the amateur. Surely New Zealand ether with only four official stations disturbing it will not be overcrowded if amateurs are allowed to have use of it...' (22).

Photo 5: Ivan Hodder at Stawell School of Mines c.1919. WIAA.

Photo 6: Sketch from AWV Minute Book 19th December 1911. WIAA.

Photo 7: 'The North Sydney Radio Club' in the middle of an argument when the photographer happened along. Australasian Wireless Review, January 1923, p 25. WIAA.

Photo 8: 'Murray Bridge Radio Club'. Francis Miller, the secretary was granted a transmitting licence (5BE) in June 1925 and was later involved with establishing 5MU, the local commercial radio station. Australasian Wireless Review, June 1923, p 14. (WIAA).

A № 541821

COMMONWEALTH OF AUSTRALIA.

G. R.

31 JAN 1914 191

Received from Mr Andrew Couper Jnr Vulcan Foundry Mareeba QQ

the sum of One pounds

One shillings and pence

being first year fee for Radio license

Receiver of Public Moneys

Photo 9: A copy of the official receipt for the licence of Andrew Couper, 31 January, 1914.

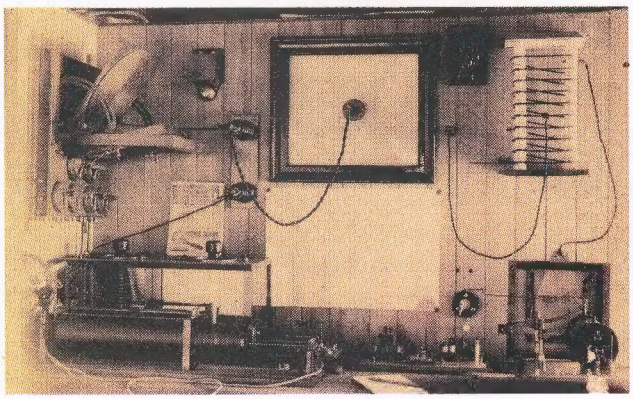


Photo 10: Andrew Couper's station XQM, at Mareeba Queensland, 1914. Couper File, WIAA.

Back in Australia, the newspapers of the day carried similar letters to the editor echoing 'official' concern ... 'What is virtually the highway for public traffic is no place for private amusements...' (23, 24).

In August 1913, an annual licence fee was re-introduced at a Guinea or £1/1/- ($2.10) in an apparent attempt to discourage the indiscriminate use of wireless telegraphy. The secretary of the central postal administration (Mr. Oxenham) stated: '... the system of issuing licences without cash payment was not satisfactory... Unless a person intended to go into the study of wireless telegraphy seriously, he was, after all, not worth encouraging.' (24). Refer Photo 9 and 10.

Walter King Witt, the Hon. Secretary of the Wireless Institute of Victoria, had a lengthy letter to the editor published in the Melbourne Argus of 16 August in which he concluded: '... In fact we have received notification from the Postmaster-General's Department that,

.....unless the situation [interference] *has undergone a change within fourteen days from receipt of this circular, it will take steps to withdraw all licences.'*

The council would like it known that it is willing to give any assistance in its power to experimenters in radio-telegraphy, whether they be members of the Institute or not.' (Refer Photo 11).

Thankfully closure, due to 'interference' did not eventuate and there is little doubt that the concerted efforts by Institute officers contributed greatly to the preservation of experimenter's privilege in this country.

At that time, the Commonwealth Wireless Director was located in Melbourne, and it is apparent that the Wireless Institute of Victoria was often the first point of contact with Australian experimenters for the authorities (25).

6. 'Wireless in Australia'- public list of stations.

This is the title of Australia's first published Call Book. In 1913, the Wireless Institute of Victoria, under its President, Vernon Cole, a bank manager interested in wireless, saw fit to record information about all known stations 'from official and other authentic sources'.

The 'official sources' now appear to be 'the very top' - the Commonwealth Wireless Director, John Balsillie! As a result of a deputation, he promised the Wireless Institute of Victoria, '...a copy of the call signals recognised by the government...' so that interference to official stations by experimenters could be minimised (25). Refer photo 12.

The resultant book, printed in April 1914, included Commercial Land Stations, Ship Stations and Australian Experimenter's call signs. There were listed some 401 Experimental stations, 33 Land stations and 14 Australian Navy ships together with a listing of 293 other ships from Australia and around the world. Most experimental stations were licensed to receive only. Refer Photo 13.

By comparison there were over 1300 known amateurs in the USA in 1913! (26)

Scattered amongst the names of the experimenters in that

first Australian Call Book were many destined to become well known leaders in communications and broadcast.

However, the vast majority were private wireless experimenters, later known as Amateur Radio Operators and all relied on the vital dialogue between their Institutes and the authority.

The 1914 Call book shows the Wireless Institute of New South Wales holding the Call sign XADK and the Wireless Institute of Victoria, XPJ (8, 12).

Due to the outbreak of WWI, the life of the Call Book was abruptly curtailed!

The "X" prefix was used in a number of countries to indicate "eXperimenter". For example, in Australia, the 1914 listing shows that XCA was issued to Ray Allsop of Randwick, who was later famous for Racophone broadcast receivers and sound motion picture projectors. But on the other side of the world, XCA was allocated to W.G. Cable of East Toronto, Canada. It was necessary to implement a more sophisticated call system once international communications became common place (8, 27).

References appear on next page

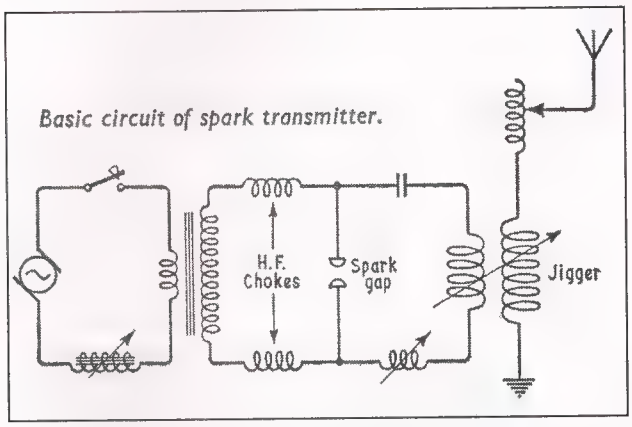
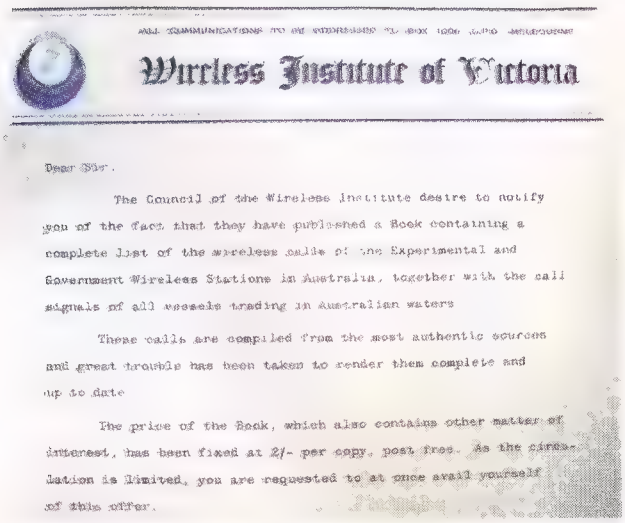


Photo 11: Typical spark transmitter. Note the Marconi 'jigger' in the aerial circuit. Wireless World, April 1961.



Wireless Institute of Victoria

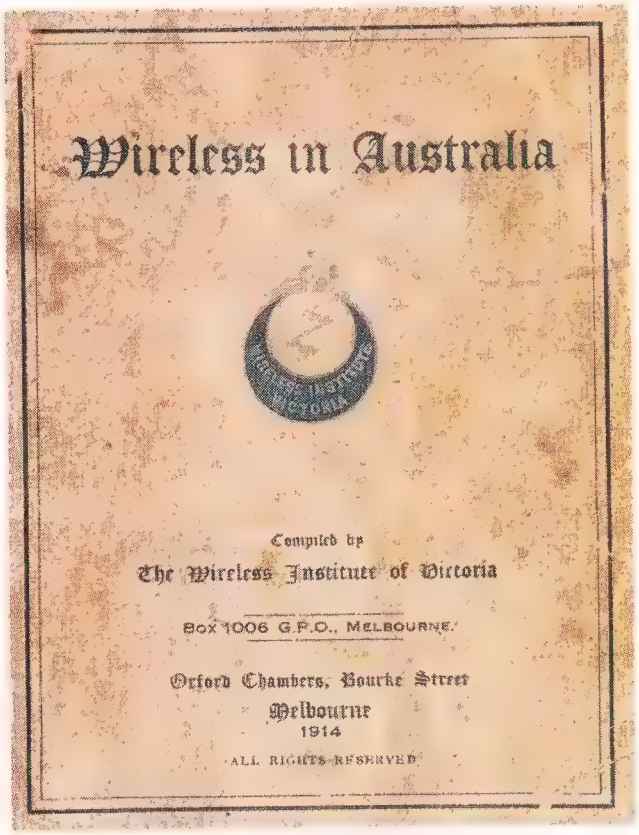
Dear Sir,

The Council of the Wireless Institute desire to notify you of the fact that they have published a Book containing a complete list of the wireless calls of the Experimental and Government Wireless Stations in Australia, together with the call signals of all vessels trading in Australian waters

These calls are compiled from the most authentic sources and great trouble has been taken to render them complete and up to date

The price of the Book, which also contains other matter of interest, has been fixed at 2/- per copy, post free. As the circulation is limited, you are requested to at once avail yourself of this offer.

Photo 12: Advice from the 'Wireless Institute of Victoria' announcing the availability of a 'Call Book', 1913.



Wireless in Australia

Compiled by
The Wireless Institute of Victoria
BOX 1006 G.P.O., MELBOURNE.
Oxford Chambers, Bourke Street
Melbourne
1914
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Photo 13: The cover of the 'Wireless in Australia' callbook, 1914.

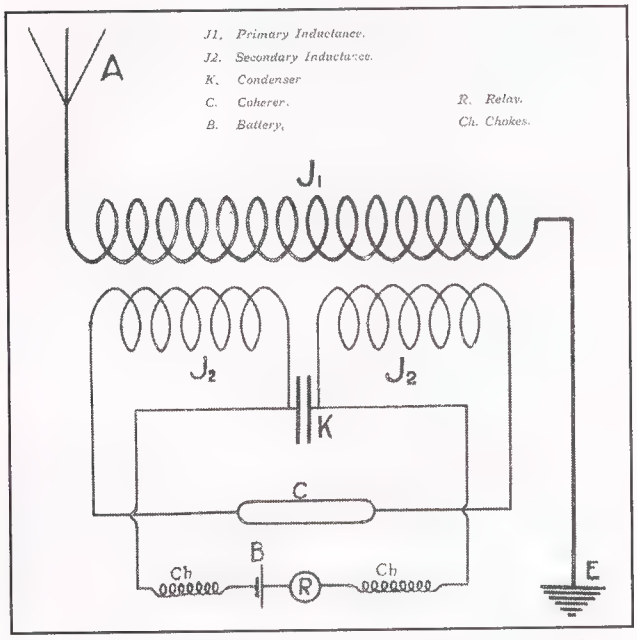

Photo 14: Early Coherer Receiver. Note the 'R' symbol representing a relay which in most cases operated the ink pen used to mark the dots and dashes on the paper-tape recording. It could also energise the coil of a 'sounder'. If headphones were employed instead, the recovered audio resembled blurting noises from the early spark transmissions. Wireless World, June 1915.

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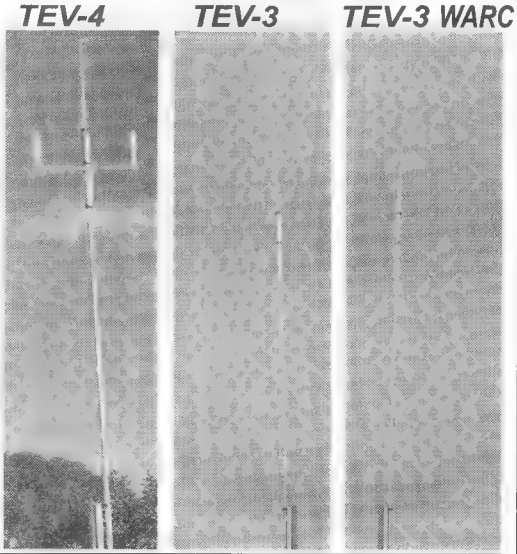

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Max. RADIAL LENGTH	10.7 metres	5 metres	7.5 metres
SWR	1.5 or less	1.5 or less	1.5 or less
POWER RATING	1 kW	1 kW	1 kW

A quality audio test oscillator

Jim Tregellis VK5JST/VK5TR

Introduction

Want a really good, cheap audio test oscillator? This unique design provides a wide frequency coverage, very low distortion, great envelope stability, uses readily available parts, and is fun to construct. And it will not break the budget...

How It Works

The oscillator design is based around the idea of an all pass filter, and Figure 1 illustrates the concept.

In this circuit, note that the emitter and collector resistances are identical and the transistor is assumed to be ideal (infinite current gain). Consequently, the input signal will appear at the emitter with the same amplitude and phase (emitter follower action), and at the collector with the same amplitude but 180 degrees out of phase.

Varying the position of the potentiometer wiper thus provides an output signal having the same amplitude as the input signal, but with a phase which, when measured relative to the input signal, can be varied from 0 to 180 degrees. This idea is illustrated diagrammatically in the vector diagram of Figure 1 which is constructed as follows.

Because Vin + Vcoll is always the hypotenuse and the voltage across the resistive and reactive components must always have a 90 degree phase relationship, from simple trigonometry the intersection of the resistive and reactive vectors must always lie on a semicircle of radius Vin, and hence Vout always equals Vin independent of phase.

The gain of this filter is thus always exactly one, and this is independent of the actual values of the potentiometer and capacitor used, provided the reactances of these components are much greater than the driving source impedances at the collector and emitter of the transistor.

This fact allows the use of cheap wide tolerance components for R and C, which can be used to set the frequency of operation in an oscillator.

If the main circuit is now studied, it can be seen that the oscillator consists of three stages. The circuitry surrounding IC1A, and IC1B, are operational amplifier realisations of the all pass filter just explained, with each filter providing around 90 degrees of phase shift (depending on component tolerances at the operating frequency), or 180 degrees in total.

The remaining 180 degrees of phase shift, to provide a total of 360 degrees, or positive feedback, is provided by IC2A which is a simple inverting amplifier.

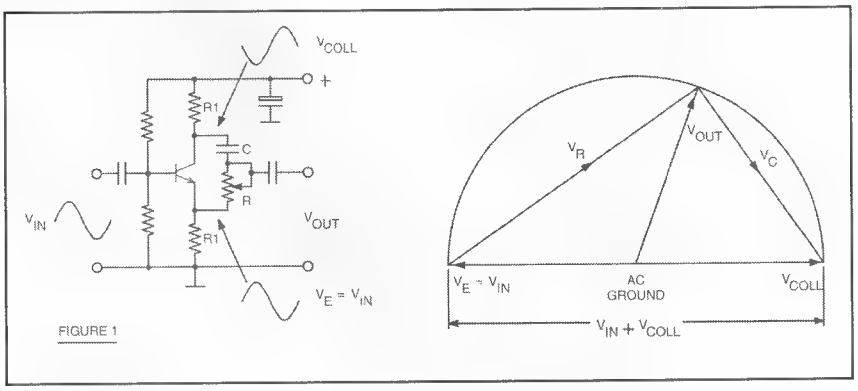

FIGURE 1

For oscillation to reliably start, the gain around the oscillator loop must be greater than one (initial loop gain). However, for a constant amplitude of oscillation to finally occur, the gain around the oscillator loop must reduce to exactly one, and so some form of amplitude sensitive negative feedback must be provided.

It is here that this circuit differs dramatically from normal audio oscillator circuits such as the Wein Bridge. Because the gain through the frequency determining filters is exactly one and there is no need to worry about component tolerances, the initial loop gain need only be set to very slightly above one to ensure good starting.

Note that the resistor between the inverting input and output of IC2A is 1K6, and during starting, when there is no light falling on the LDR, the initial loop gain is therefore 1.066 (1.6/1.5). The very small difference between initial and final loop gain (6.6%) also ensures excellent envelope stability, and unlike oscillators based on the Wein Bridge and similar networks, this oscillator exhibits almost no amplitude change as the frequency dial is spun rapidly.

During starting, there is also no violent overshoot with the following low frequency ringing of the oscillatory envelope, and the amplitude just smoothly climbs and settles to its final level without drama.

Amplitude stabilization is provided by the circuitry around IC2B. A full wave rectified sine wave is applied to a capacitor filter (100 uF in series with 100R) via two 1N4148 rectifier diodes, and the resulting DC is applied to a super bright white LED, which in turn illuminates the LDR. This lowers the LDR resistance and reduces the oscillator loop gain to one.

One half of the full wave rectified sine wave comes directly from the output

of IC2A, while the other half is supplied by the inverting amplifier IC2B. With the filtering components specified, the oscillator distortion typically lies between 0.005 and 0.01%.

The circuitry for rectification is fairly crude but works effectively, and precision rectifier structures are not used because they are more complex and not fast enough when fabricated with normal cheap op amps.

Because the initial loop gain is so small, it is possible to use non linear feedback to control the final amplitude of oscillation without introducing significant distortion. Omitting the filtering components and applying the raw rectified sine wave directly to the LED causes the oscillator distortion to rise to around 0.1%.

However, unlike almost any other high purity design, the frequency range can then be extended downwards as far as desired (thousandths of an Hz) by simply making the frequency determining components larger.

Some constructors may like to take advantage of this significant feature.

The oscillator circuit is followed by IC3A. This acts as a linear inverting amplifier with a gain of 2.5 when S2 is in position 2. When S2 is in position 1, IC3A acts as a Schmitt trigger stage due to the positive feedback introduced, and converts the incoming sine wave to a fast rise time square wave.

Unlike many other op amps, the TL072 has identical saturation characteristics at either end of its output swing, and so generates a square wave that is symmetrical about zero volts. The much larger square wave swing at the op amp output is reduced to the same amplitude as the sine wave by adding in an extra 10K resistor in series with the OUTPUT LEVEL pot.

The simultaneous provision of sine and square wave outputs has been deliberately avoided. The fast switching edges of a square wave typically introduce unwanted glitches into sine wave circuits due to stray capacity coupling and induced noise on supply rails.

In a simple circuit like this, which uses a single sided printed circuit board, it's almost impossible to prevent degradation of the sine wave output, particularly at low output levels.

Output to drive a frequency counter is provided from the output of IC3 via a 10 kilohm series resistor. This limits the current that can flow from the op amp output through the input protection circuitry of a typical frequency counter, thus avoiding the possibility of output distortion.

No attempt has been made to provide a calibrated frequency scale on the instrument front panel, as frequency counters are now very cheap and feature on almost every workshop bench. However, if you wish to provide such a scale instead of using a counter, then use 1% capacitors in the two frequency determining networks.

The last part of the circuit is a unity

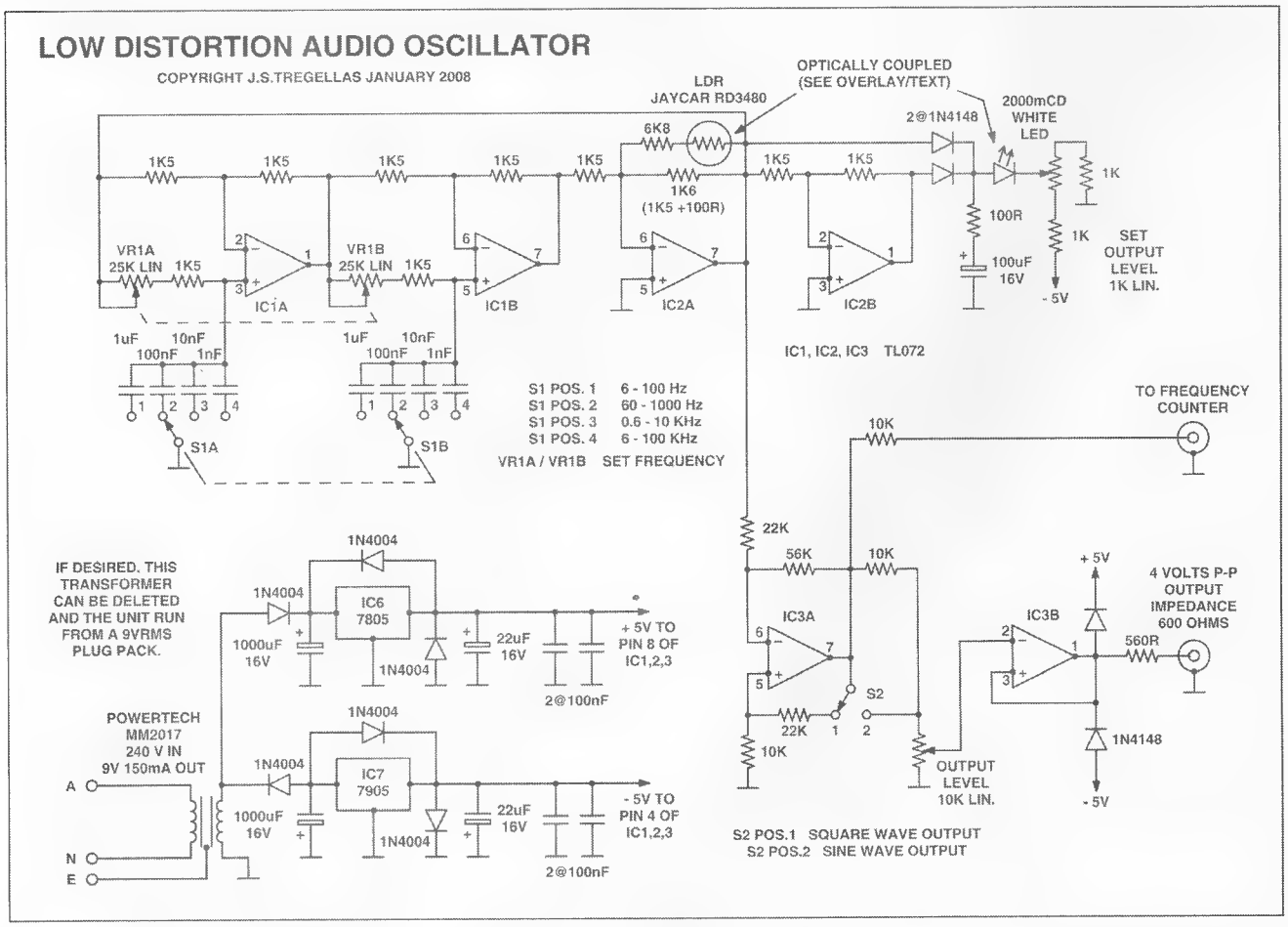

Figure 2: The circuit drawing.

gain amplifier IC3B, which provides an output impedance of 600 ohms. Two diodes prevent the output from being pulled above the positive, or below the negative supply rails by external circuitry, protecting it from most user errors.

Assembly

Prepare your box first, noting that the lid supplied is actually used as the rear panel. The front panel label artwork should be copied twice, to the size specified, so that it will exactly match the printed circuit board.

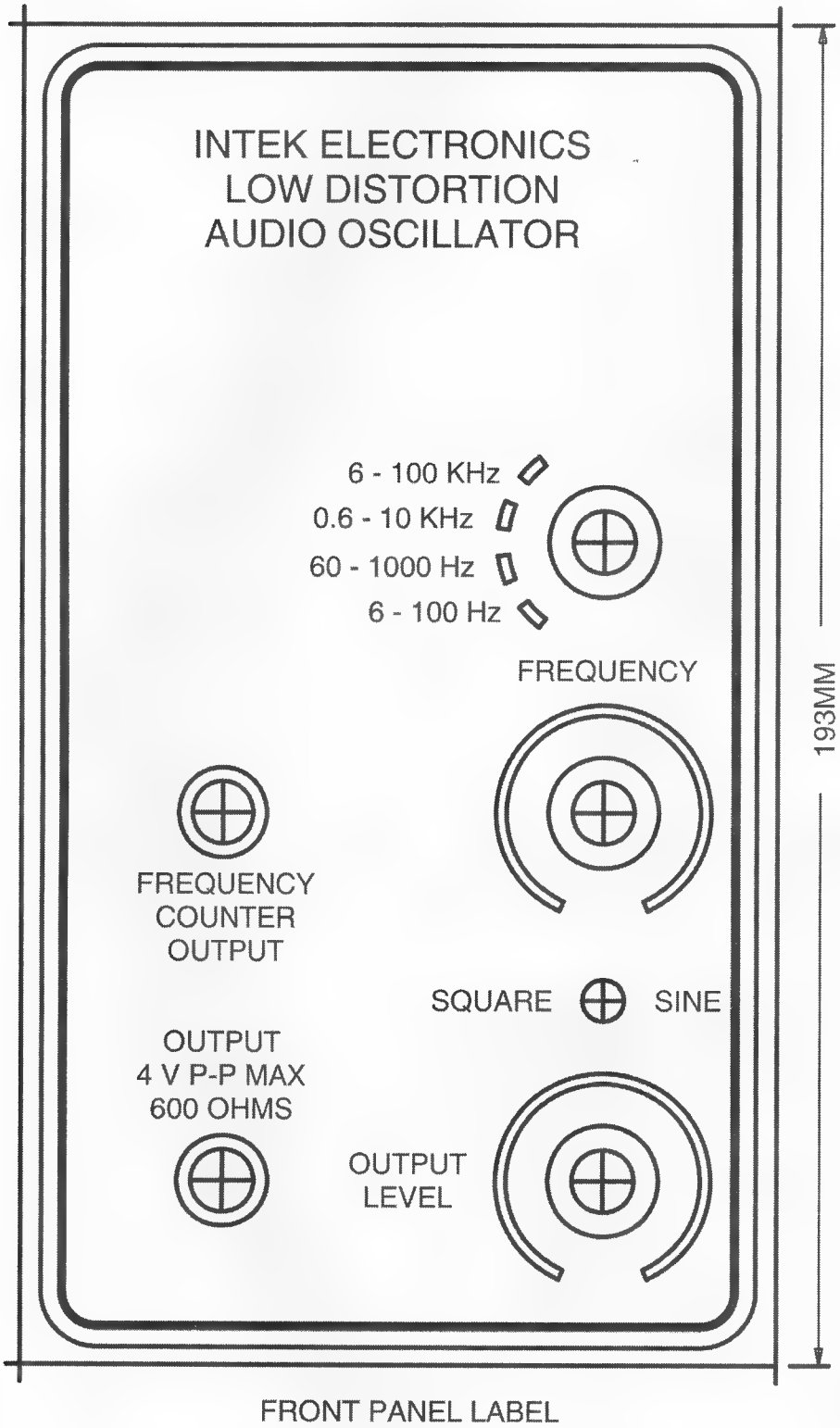

Figure 3: The front panel layout drawing.

The first copy should be done on standard paper, and the second copy on heavy 150 gsm card of your preferred colour. If desired, this card can be laminated with clear plastic at your local stationer to form a very hard wearing front panel.

Exactly mark out the box rear for the pots and switches by pricking through the paper copy and then accurately drill pilot holes of 1.6 mm diameter or so (1/16 inch). Drill all holes to final size using a very light pressure and slow feed, and make sure the box is firmly clamped down. Large twist drills have an unhappy habit of picking up an unclamped plastic box, usually doing very significant damage to the box, but more importantly, to the constructor's hands. Next drill and countersink all screw holes in the case side, and drill and file the hole for the IEC power connector to size.

Using the sharp point of a hobby knife, cut out all holes for pots and switches in your front panel label. Completely cover the box rear with double sided adhesive tape and use your hobby knife to remove the tape that covers the mounting holes for switches and so on.

Find two pieces of circular scrap steel rod or wooden dowel to exactly fit two mounting holes which are chosen to be as far apart as possible and insert

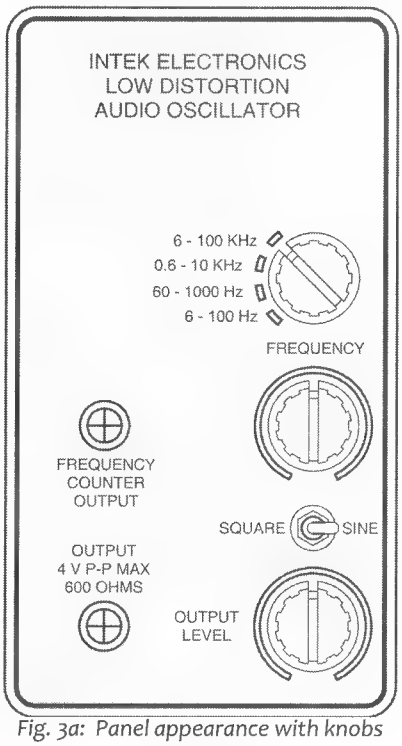

Fig. 3a: Panel appearance with knobs indicated.

these into the selected holes. Now slide your front panel over the ends of these two guides, and carefully move it downwards until it just barely contacts the adhesive.

Complete your final positioning, and then firmly stick the label down. Trim around the label edges with your hobby knife to remove any unwanted tape.

Next make your PCBs from the artworks supplied. These can be made with the iron-on film supplied by Jaycar and others, or with the steam iron/clay paper method detailed on my homepage (http://www.users.on.net/~endsodds).

Mount all components, except for the ICs, working from lowest to highest profile. Use IC sockets. Form the LED/LDR assembly by placing the two into face to face contact, and covering the assembly with a short length of black heatshrink tubing.

Finally mount, but do not solder, the two potentiometers on to the PCB. Place the oscillator PCB into the case, and screw the two potentiometers into final position on the front panel, and then solder all potentiometer terminals. Doing it this way aligns everything and avoids any gross mechanical stresses on the potentiometers.

Complete all wiring, as per the

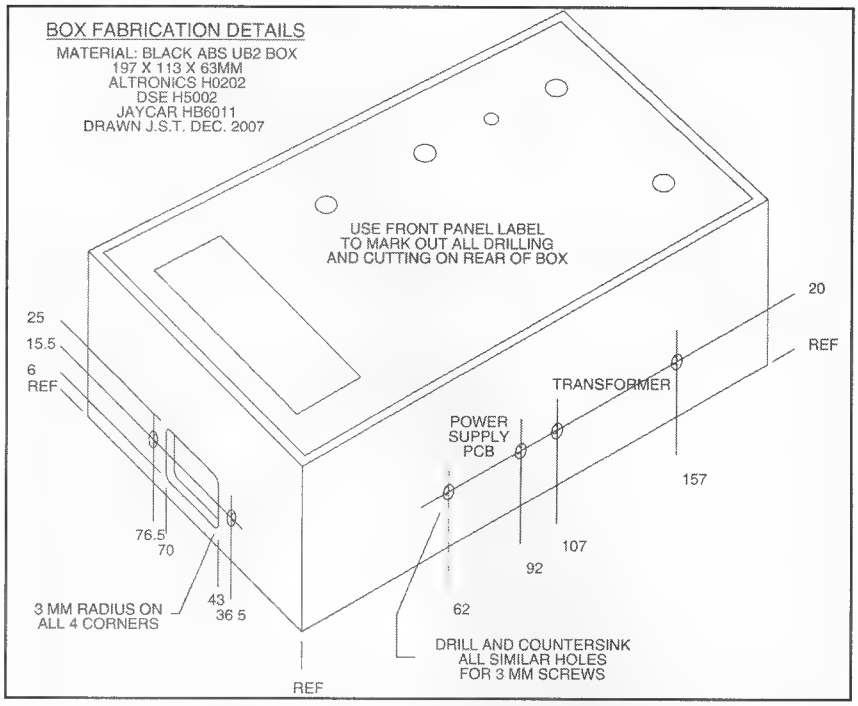

Figure 4: The box fabrication details.

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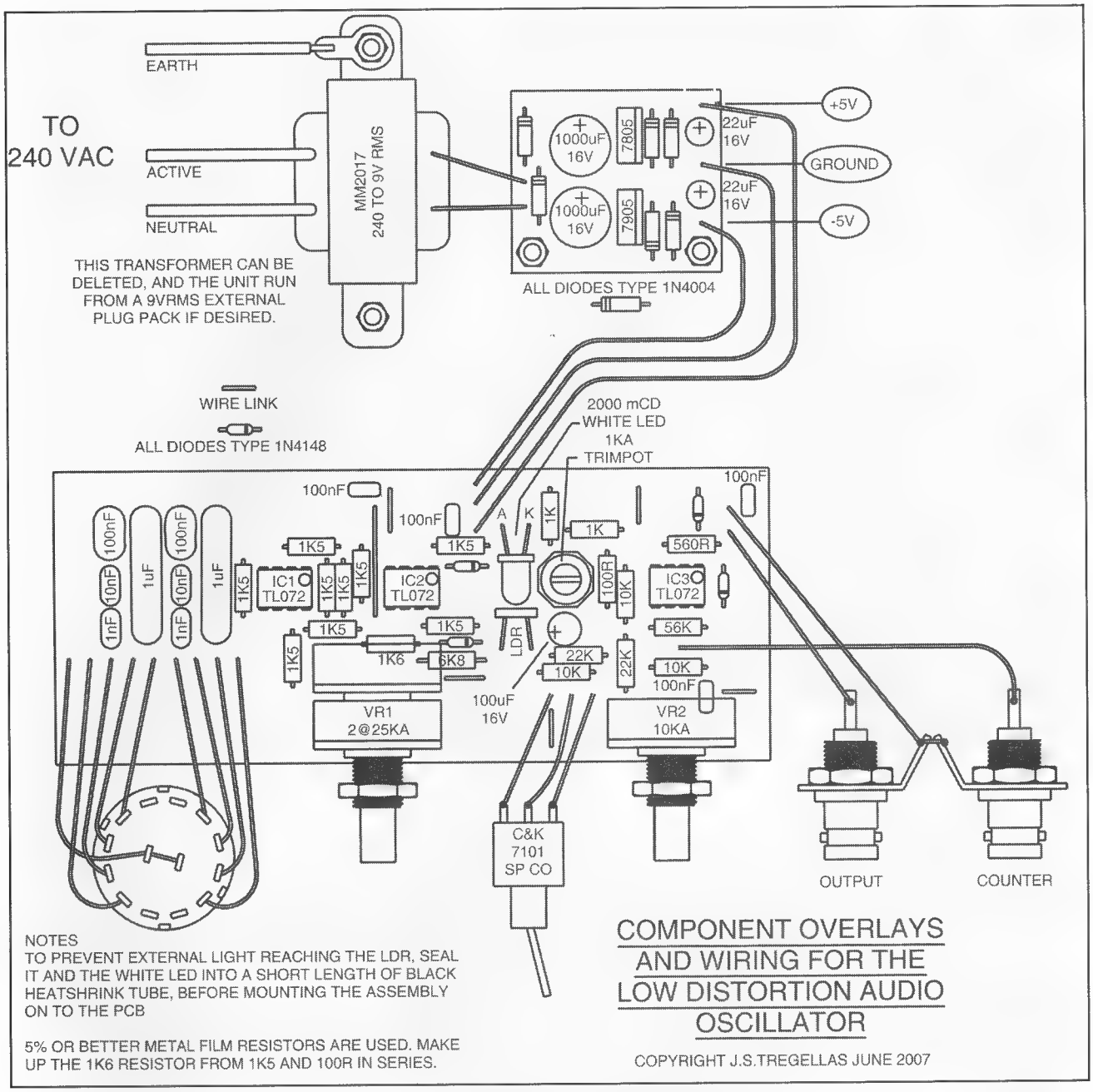


Figure 5: The component overlay and wiring details.

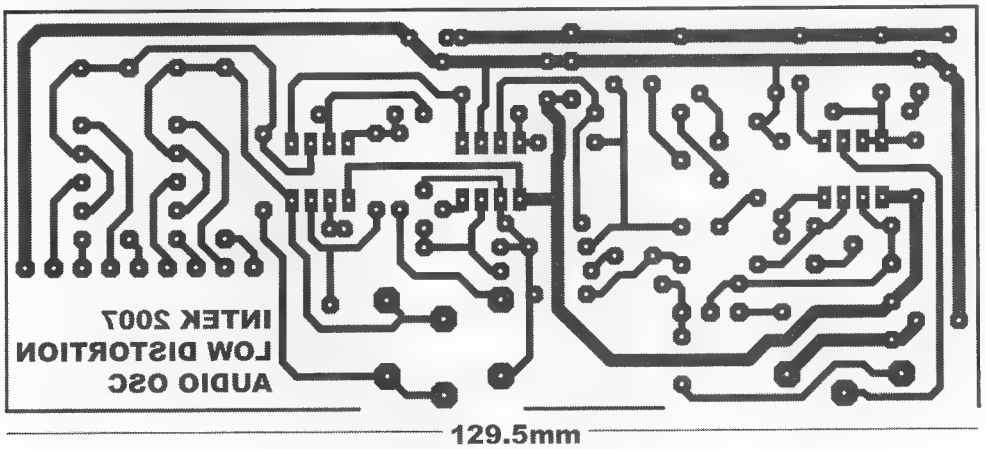


Figure 6: The mainboard printed circuit pattern.

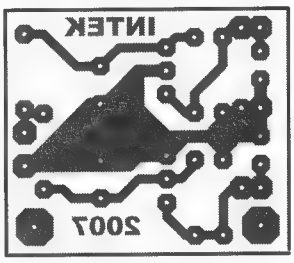


Figure 7: The power supply printed circuit pattern.

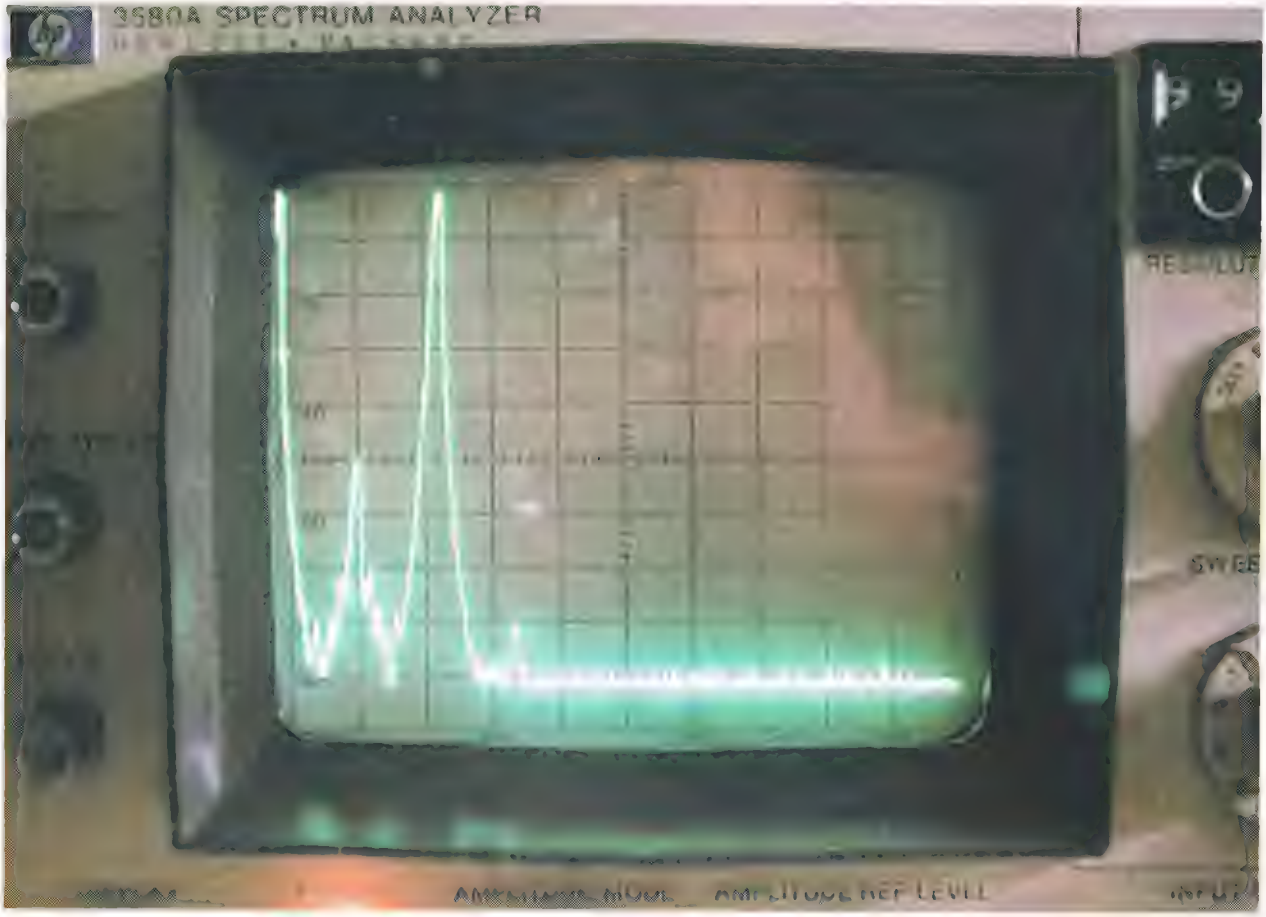


Photo 1: Spectrum analyser display of sine output at 600 Hz. Vertical axis – 10 dB/division. Horizontal axis 500 Hz/division. Zero marker on division 1.

Photo 2: Rear view of the instrument, showing the internals.

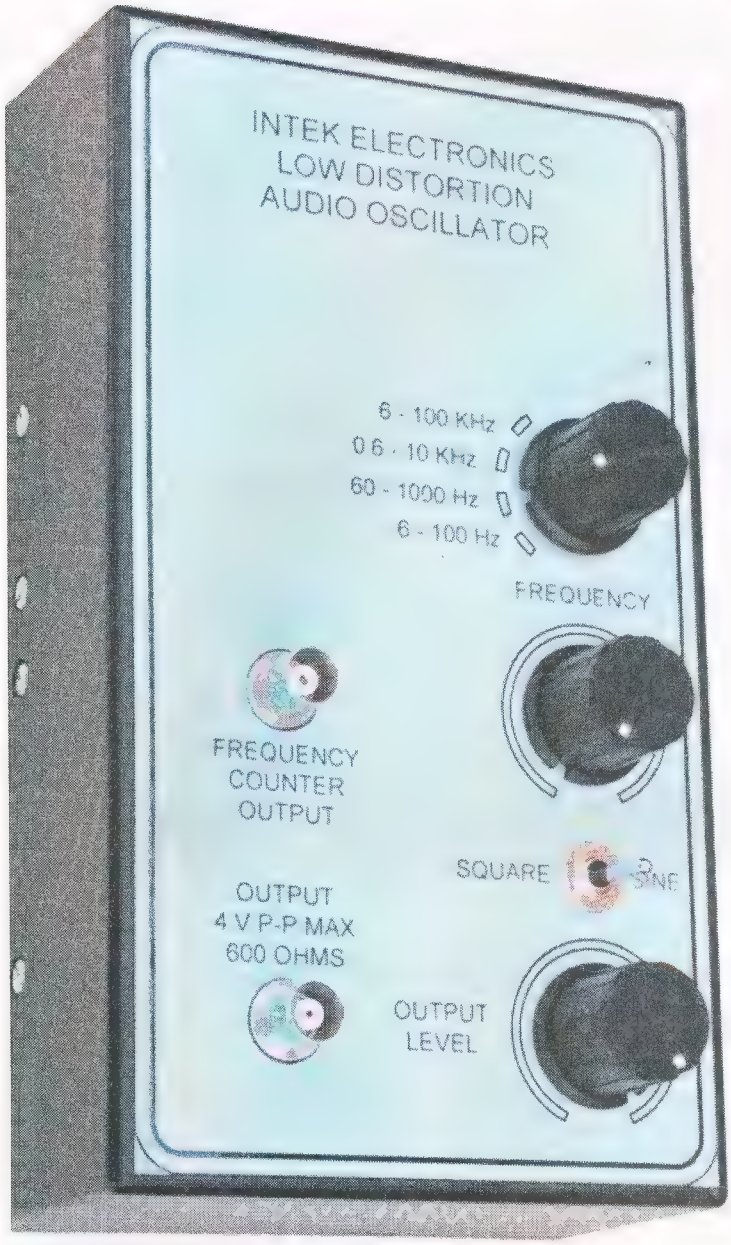


Photo 2: Front view of the completed instrument.

component overlay between the oscillator PCB, and the front panel switches and connectors.

Mount the power transformer, IEC mains connector, and power supply PCB and finish all wiring.

Testing

Double check the orientation of all diodes, electrolytics, and the five volt regulator ICs before applying power.

Connect voltmeters to monitor the positive and negative five volt rails and briefly switch on to check for correct operation of these supplies. If all is well, mount all ICs in their sockets, and monitor the oscillator output with an oscilloscope.

Set the output amplitude to maximum, select a sine wave output, and the 60 to 1000 Hz frequency range. Switch on, and if everything is OK, adjusting the trimpot on the oscillator PCB should produce a sine output.

Switch over to square wave and note the exact peak to peak value, which should be around four volts. Switch back to sine and adjust the trimpot so that the peak to peak value of the sine output exactly matches that of the square wave.

Check operation on all other frequency ranges, and that output to drive a frequency counter is present. This completes all initial testing.

If you have a very good noise and distortion meter, you can now check the oscillator sine wave distortion, but most meters will simply end up indicating their own internal distortion.

To fully test this oscillator, access to a really good audio spectrum analyzer is desirable and even then, you will discover that boundaries are being tested.

Acknowledgements

Thanks to Mark Spooner VK5AVQ for the loan of a very nice HP audio Spectrum Analyser.

ar

OTY

Ladder crystal filters

Dear Editor

I would like to bring to your notice the article published by DJ6EV and myself in Nov/Dec 2009 QEX. The associated software is now available on the Warrington Amateur Radio Club web-site (www.warc.org.uk then click on 'Projects').

As well as the software, several of my earlier ladder crystal filter articles which are relevant, are available. Besides my own articles, there are several other contributions from club members, including additional information on the award-winning CDG2000 transceiver.

I wonder if you could spare space in your magazine to alert your readers to this web-site?

Yours sincerely,

Jack Hardcastle G3JIR

A $2 doubling of output and input

More power from that handheld

Bill Isaacs VE4IS

One thing on which most people could agree is that what they need is "more".

Many amateur radio operators own a handheld transceiver, usually for two metres or perhaps a dual band unit that includes 70 cm as well. Repeater coverage is what our clubs can afford to make it, and is often impressively good; but sometimes it would be useful to radiate "more" power to reach that repeater.

The antenna that comes with a handheld transceiver is invariably of the "rubber duck" variety, probably helically wound to present a reasonable load to the transmitter and made to be as short and flexible as possible.

Whilst electrically presenting itself as a quarter-wavelength antenna, the actual capture area for receiving radio frequency energy will probably be a lot less, bearing in mind that a quarter wave-length on two metres is in the vicinity of 50 cm. The typical factory-supplied antenna is about 15 cm long, giving it a capture area of about one third that of an actual quarter-wave antenna.

On the VHF and UHF repeaters that we use, the signal is vertically polarized, so a transceiver with its antenna held vertically will at least be oriented to make the best of the signal.

But what is the antenna actually doing? It is under-sized and the only thing representing a ground-plane is the metal body of the radio, probably not over 10 cm long. The radio may be bravely putting out several watts, but the efficiency, or should that be inefficiency, of the antenna system drastically reduces the effective radiated power.

It will probably be in the order of one watt if it were being radiated from a regular dipole. Those who have experience with HF antennas will know what can be expected from a significantly-shortened vertical, with only a minimal set of ground plane wires at the base: not a lot!

A quarter-wave vertical antenna with a ground plane, if properly executed, is a highly efficient antenna with a low angle of radiation. But it does not seem to be a design that lends itself to use on a handheld! However, there is a way to greatly improve the effective output of the radio for almost no cost.

However, there is a way to greatly improve the effective output of the radio for almost no cost.

Replace the rubber duck with a telescopic metal antenna and set it to a quarter wave- length on the frequency of operation. That is one small step for an amateur; now comes a giant leap for ham-kind. A length of flexible insulated copper wire can be soldered to a clip that is the right size to grip the base of the antenna at a point below the insulator separating the radiating element from the connector.

Cut the wire so that the total length of clip and wire is a quarter-wave on the frequency of operation, creating in effect a vertically-polarized dipole. Insulated wire is used to maintain separation from things like the operator's hand, which would interact more if in contact with a bare wire.

Photo 1 shows the radio ready for use. The clip-on attachment can be rolled up for easy carrying and added when needed. For about $2, this will nearly double the output of, and input to, the radio which will allow better access to repeaters when otherwise on the fringes of coverage. It will also allow a reduction of transmitter power to extend battery life.

My experience is that this modification to the antenna system does not increase the received signal strength to a point where the radio becomes overloaded from pager transmitters just above 148 MHz.

A word of caution is in order for users of many of the modern small radios that have an SMA connector for the antenna.

The available extendable antennas seem to be limited to BNC type connectors. Photo 2 shows some manufacturers' rubber duckie antennas, some accessory antennas with SMA connectors and a selection of extendable antennas with BNC

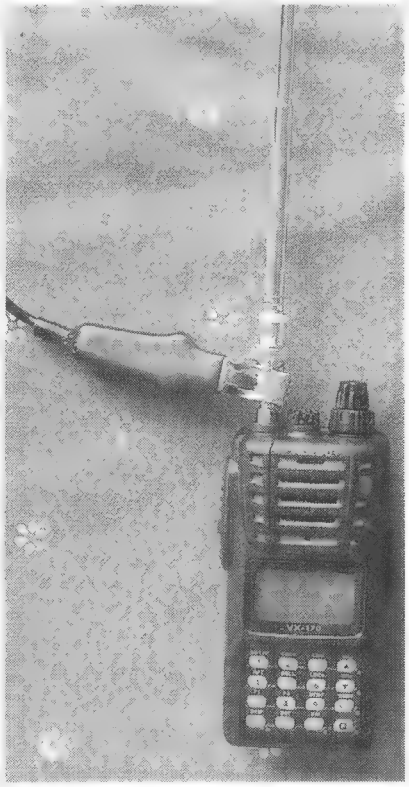


Photo 1: A 2 metre handheld with antenna modification.

connectors. Some of the latter have been fitted with SMA adaptors.

The antenna with a coil at its base is a rather massive five-eighths wavelength long. It pushes the boundaries of what could be safely supported by the connector on the radio. A BNC/SMA adaptor, which allows the antenna to connect to the radio, is a good place to attach the clip; but do not expect miracles of structural strength from this fitting.

Only use this type of antenna when getting it snagged on an obstacle is really unlikely.

As the extendable antenna, adaptor and clip-on wire are not too heavy or bulky, they can be carried in the pocket until needed. For instance, when bush-walking and the rubber duck has passed its point of effectiveness, the extendable antenna and clip-on wire can be used to restore communications. But stand still, because walking and talking is a recipe for getting the rig tangled in something, and damaged. **ar**

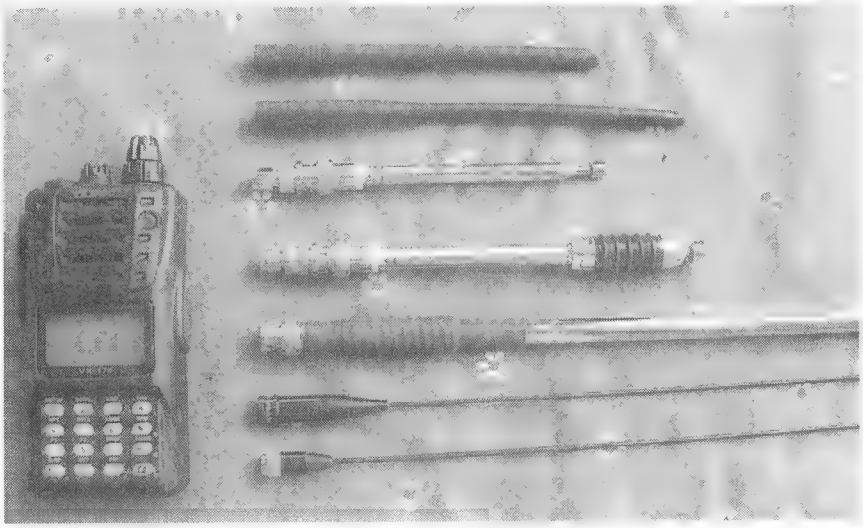


Photo 2: A selection of antennas.

A 40 metre groundless/tunerless dipole

'It is especially suited to...difficult backyards'

This 40 metre (half-wave) antenna has been extensively tested, and found to perform consistently on par with a centre-fed dipole or a G5RV at the same height.

The SWR is better than 1.3:1 (very broad-banded) and, I found, almost totally unaffected by nearby objects or height above ground.

It can be used as an end-fed dipole or vee, a sloper, or even as a vertical, and is an excellent performer compared to other dipole configurations when used above poor earth.

During testing, it was fed with varying lengths of RG58 coax; however 21.35 metres gave the best performing match across the whole band. But with a coax length of 14.75 metres, the SWR went wild – of course, that is 3/8 wavelength on 40 metres, after allowing for a 0.66 velocity factor in the coax.

There is no reason that this design cannot be scaled up or down for other bands.

It is especially suited to locations requiring a lengthy feed-line distance from the radiating section, or for difficult backyards or even for portable/temporary use.
Enjoy. **ar**

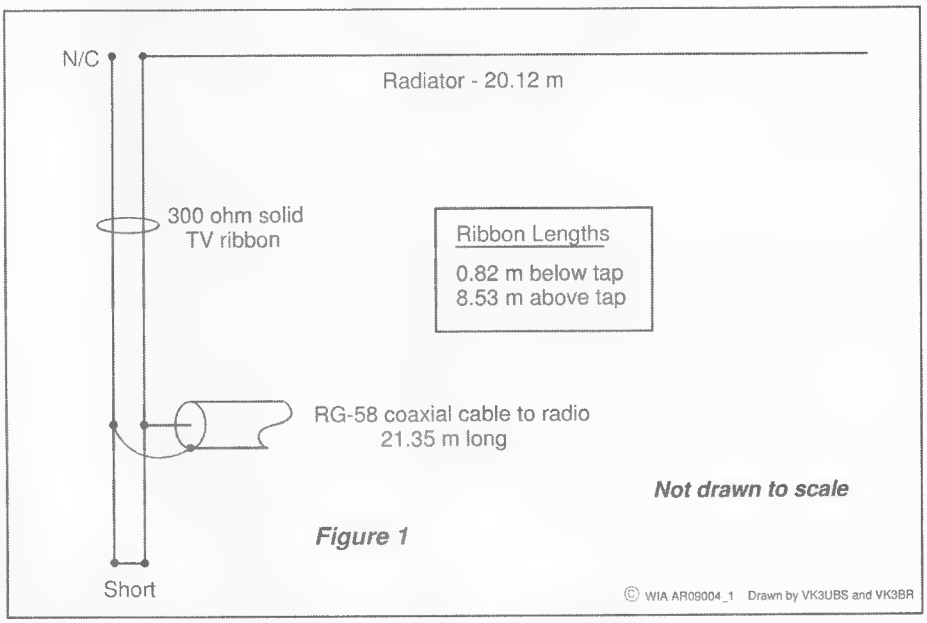


Figure 1: The groundless/tunerless dipole

Part 3 of 3

A complete 8 MHz IF system for USB, LSB and CW for a HF transceiver

Peter Wathen VK3EPW

The main IF module

This is part three of the IF system; it describes the construction of the main IF module.

If you have followed the article so far in Part 1 and Part 2, you should have already completed the BFO oscillator module and the crystal filter module, so this part will complete a working IF strip.

Circuit design

I will start with the RF input of the IF strip, refer to Figure 1. It is actually both the input and output. Why? It means only one coax cable is needed to join the RF input/output module to the IF strip. The IF input/output goes to a double balanced diode ring mixer in the RF input/output module through a Pi filter.

The ring mixer is also a bi-directional circuit. At the other side of the mixer the band filter/RF amplifier circuit is diode switched to be both receive input circuit and RF filter/pre-driver module for the transmit side.

Back to the IF design. The input-output goes first to a diode switching arrangement, in RX mode 12 volts RX is fed through R33, R34 and forward biases D5 with current flowing through the 1 kOhm resistor to ground (R35) at the input of the filter module, the positive voltage developed across this resistor is used to reverse bias D3 and D4 (+12 V TX is at this point zero volts as we are in receive mode).

At the output of the filter module, D1 is fed with 12 volts RX from R1, R2 and passes current to R27, again the voltage developed across R27 is used to reverse bias D2 (+12 V TX is at this point zero volts as we are in receive mode).

The signal path in receive mode is then through C36 through D5 to the input of the crystal filter module; the crystal filter module is powered by +12 volts constant and is powered during both transmit and receive modes, the filtered output of the crystal filter module is then fed through D1 to the first IF amplifier through the matching Pi network; the Pi network takes the 50 Ohm output of the filter module and transforms it to a much higher impedance more suited to the G1 impedance of the dual gate MOSFET.

G2 of the dual gate MOSFET is driven with AGC voltage to vary the gain of the amplifier (approximately +8 V maximum gain and zero volts, minimum gain). The receive 12 volt rail is fed to the drain of the first IF through L1, a 33 uH choke, low resistance to DC but a very high resistance to the 8 MHz signal; the drain output impedance is matched through the Pi network approximately 1 kOhm and stepped up for the G1 of the second IF amplifier to 3300 Ohms, designed with a loaded Q of 12.

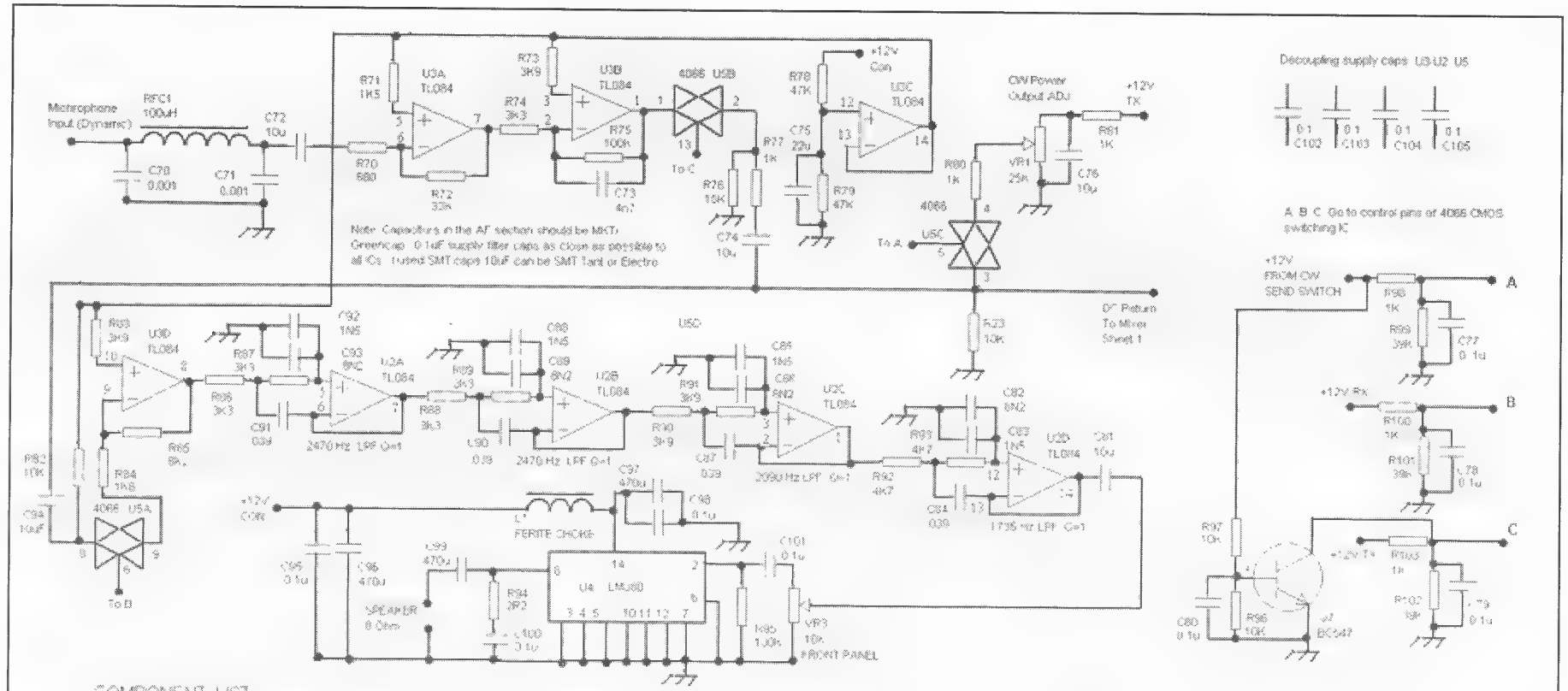
The second and third IF amplifiers are the same design with the exception of the Pi network at the output of the third IF amplifier; the output side of this Pi network is 50 Ohm impedance to match the double balanced ring mixer which is used as both detector and modulator, its bidirectional properties are used to full advantage in this circuit.

In receive, the high impedance (drain) side of this Pi network is picked off by a low capacitance (33 pF) capacitor and fed to the AGC amplifier, another MOSFET which is used as a broad band RF amplifier and followed by a voltage doubler rectifier circuit; it is filtered and then fed to the DC amplifier.

The DC amplifier uses a 1N914 diode (D8) forward biased to get the transistor base voltage very close to its turn on voltage making it a very sensitive DC amplifier. The supply rail of the DC amplifier is regulated at 8 volts by U1 78L08 three pin voltage regulator this gives it a voltage swing at the collector of roughly 8 volts no signal and zero volts at full signal, exactly what the G2 of the MOSFET IF amplifiers require.

The S meter circuit uses two trimmer potentiometers; VR1 is used to set the plus side of the meter to the same as the collector voltage (there is a small difference at no signal as the bias just switches on the transistor) and VR2 is adjusted so that when the collector is at zero volts (full input signal) the meter reads full scale.

The ring mixer is fed with the BFO voltage through a resistive attenuator network; the output of the mixer is then fed through a Pi filter to remove all the RF content and is then fed to the AF section of the circuit.



COMPONENT LIST

RFC1	100uH RF Choke
C72,C84,C81,	10uF 63V Electrolytic
C74,C76	10uF 16V TANT SMD
C75	22uF 63V Electrolytic
C96,C99,C97	470uF 35V Electrolytic
C102,C103,C104,	0.1uF (1206)
C105,C77,C78,	0.1uF (1206)
C79,C80,C95,	0.1uF (1206)
C100,C101,C98	0.1uF (1206)
C70,C71	0.001uF (1206)
C73	0.0047 GC
C91,C90,C87,C84	0.039uF MKT
C92,C88,C85,C83	.0015uF MKT
C93,C89,C86,C82	0.0082uF MKT

R94 (USE 4 10 OHM IN PARRALEL)	2R2 (1206)	U2	TL084
R70	680 (1206)	U3	TL084
R77,R80,R81,R98,R100,R103	1K (1206)	U4	LM380
R71	1K5 (1206)	U5	74HC4066
R84	1K8	Q7	BC547
R73,R90,R91,R83	3K9 (1206)		
R86,R87,R88,R89,R74	3K3 (1206)	VR1	25K TRIMPOT
R92,R93	4K7 (1206)		
R85	8K2 (1206)		
R82,R96,R97,R23	10K (1206)		
R76	15K (1206)		
R72	33K (1206)		
R99,R101,R102	39K (1206)		
R78,R79	47K (1206)		
R75,R95	100K (1206)		

Figure 2: Circuit diagram of the 8 MHz IF strip AF section.

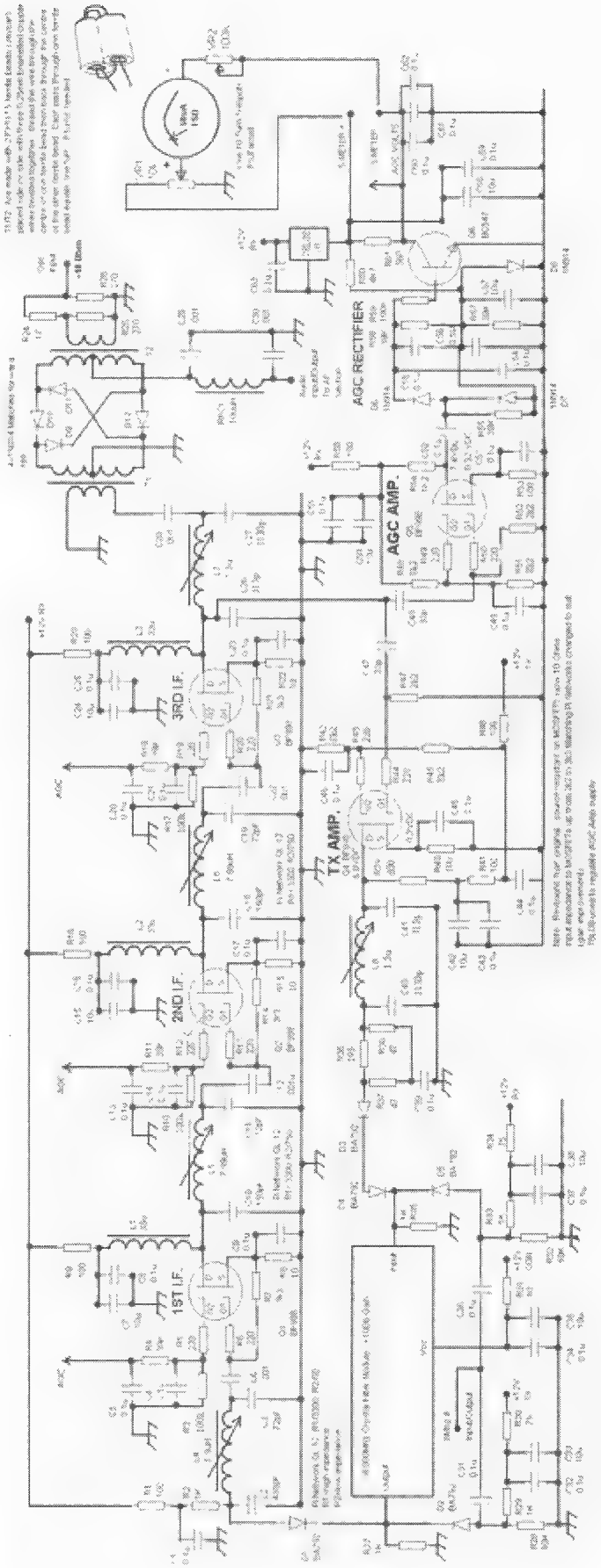


Figure 1: Circuit diagram of the 8 MHz IF strip RF section. (Please note that this circuit is reproduced in AR in the knowledge it may be too small to read clearly – those who wish to see the circuit full size should visit the Amateur Radio section of the WIA website, where it has been reproduced at full size). See table one on page 24 for parts list.

The AF section

In the AF section (refer Figure 2) of the circuit several CMOS switches are used. In receive mode the C switch is on and passes the AF from the mixer to a buffer amplifier and then through several AF low pass filter networks.

The filters were arrived at by ear, mine; they provide a noticeable difference to the AF noise of the IF amplifiers as well as improving the audible interference from nearby signals. In transmit modes C switch is always switched off but either A or B will be switched on depending on the mode you are in.

When SSB is in use (no voltage from CW send switch but 12 volts TX present) then switch B is enabled and switch A is disabled allowing the output from the microphone pre amplifier to be passed through to the mixer. Note the Op amps and AF amplifier are powered by 12 volts constant and are always powered.

In CW mode switch A is on and switch B is turned off by Q1 which is biased on by the +12 V from the send switch; switch C is off as there is no +12 V RX during TX mode. With switch A on, VR1 is set to pass a DC current to the diode ring mixer; it should be adjusted to maximum RF output from the mixer and then backed off till the output drops just slightly. CW keying is performed at the RF power amplifier module.

Transmit design

The output of the mixer during transmit is picked off from the drain of the third IF amplifier by a 33 pF capacitor and fed to G1 of the TX amplifier, yet another dual gate MOSFET.

The output of the TX amplifier is formed across a resistive load, 600 Ohm and a Pi network is used to transform the 600 Ohm impedance down to 50 Ohm for the filter input. A Pi network resistive attenuator is used to attenuate the signal from the TX amplifier to a good level for the input to the filter as well as the final output to the RF filter module (double balanced ring mixer). As the DC drain voltage is still required here to forward bias the switching diodes D3 and D4 the resistive attenuator has a capacitor to ground to pass the AC component

and stop the drain voltage from being shorted to ground through the low value resistors.

In terms of diode switching, the diodes D3 and D4 are forward biased by the TX +12 volts which is passed through the drain resistor of the TX amplifier; voltage developed across the input resistor 1 kOhm (R35) to the filter module is used to reverse bias D4 (RX +12 V is now at zero volts as we are in TX Mode); the RF output of the TX amplifier is then passed to the filter module input.

At the output of the filter module +12 V TX is used to forward bias D2, the current passed develops a voltage across the 1 kOhm resistor at the output of the filter module which is used to reverse bias D1 (RX +12 V is now at zero volts as we are in TX mode).

That is it for the circuit theory.

Construction

I have attached the circuits (Figures 1 and 2) and some pictures of the constructed module (Photos 1 and 2). Please look at the construction method, PCB box, as well as the layout.

The RF side has a logical flow input to output and is much the same as the circuit diagram. RF wiring is made with Teflon coax which you can buy from Jaycar in a made up SMA lead of three metres. On the circuit board remove the outer Teflon coat and solder the braid to the PCB, it makes for a well shielded connection.

Shielding is done on my module with Milo tin cut to correct size strips (use the non ribbed Milo tins); holes are drilled at points along the shielding to make points where tinned copper wire can be soldered to the tin and brought through the PCB both as an earth point to the board and an anchor point for the shielding tin. Components used are available through a combination of RS Components, Jaycar or Farnell Components.

All the PCB artwork for the main module was done with Dalo Pen.

Alignment

The alignment of the completed module is very simple. First connect and adjust the S meter as suggested in the theory text (must be in RX mode) and then connect a low level 8.000 MHz RF signal source to the input. You can use the BFO module as the signal source (CW Mode) with a switched step attenuator.

Adjust the output so the meter just moves, then adjust all of the RX Pi networks for a peak in meter deflection, then as the meter deflection increases reduce the RF input.

In transmit mode you will need the BFO module connected up to the main IF module and set the modes to transmit as well as CW, the output of the IF strip can now be connected to a general coverage receiver or oscilloscope.

Adjust VR1 in the AF circuit to maximum voltage (highest current to the ring mixer) then adjust the TX amplifier Pi network for maximum output then go back to VR1 in the AF section and back off until the RF output begins to drop below maximum.

That is it, go build.

A full parts list appears on the next page.

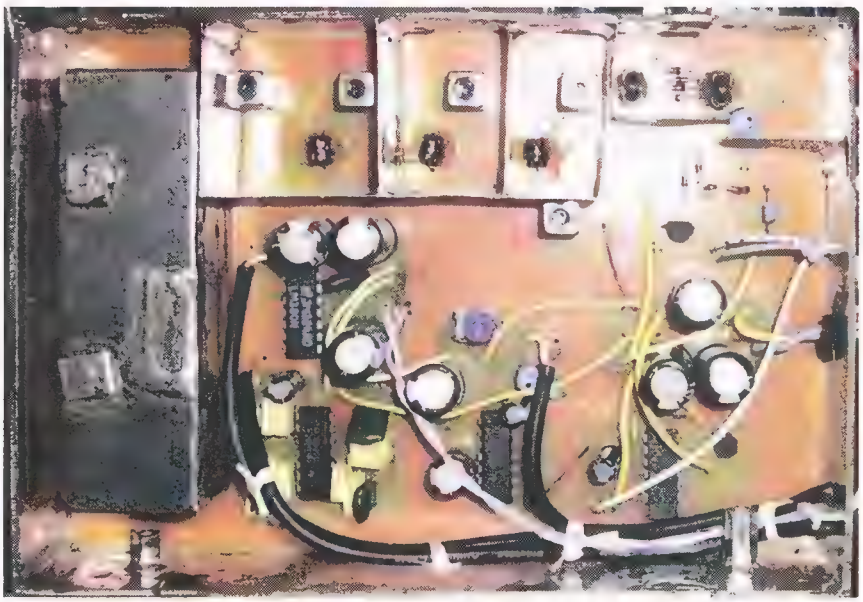


Photo 1: The IF strip - top side.

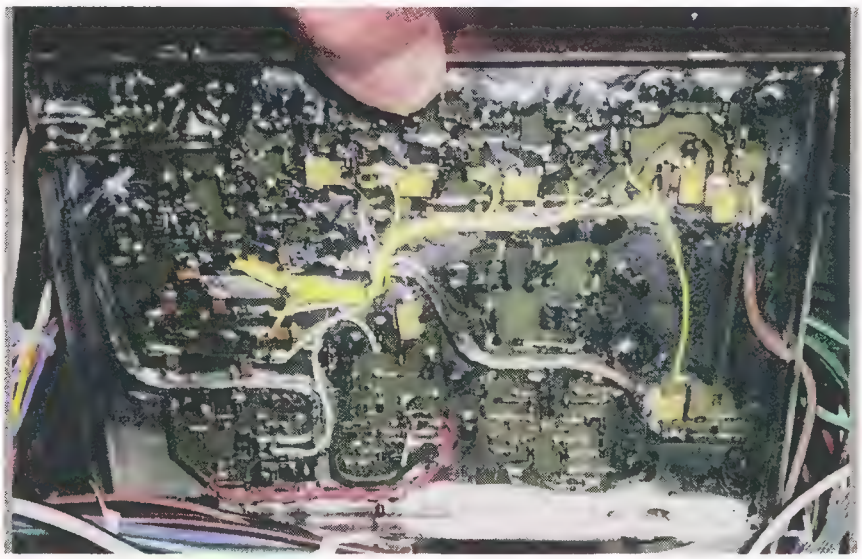


Photo 2: The IF strip - bottom side.

Table 1 Parts list for 8 MHz IF section

Component List

D1, D2, D3, D4, D5	BA792
D6, D7, D8	1N4148
D9, D10, D11, D12	1N4148 (matched forward res.)
Q1, Q2, Q3, Q4, Q5	BF998
Q6	BC547
U1	78L08
T1, T2	FX1115 (2 each)
RFC1	100 uH RFC
L1, L2, L3	FX1115
R8, R15, R22, R31	10 (1206)
R24	16.5 (2 x 33)(1206)
R37, R38	47 (1206)
R30, R34	75 (1206)
R1, R9, R16, R23, R40, R41, R46, R53, R68	100 (1206)
R36	195 (2 x 390) (1206)
R5, R6, R12, R13, R19, R20, R43, R44, R49, R50	220 (1206)
R25, R26	270 (1206)
R61	560 (1206)
R39	600 (2 x1k2) (1206)
R2, R29, R33, R35, R27	1k (1206)
R54	1k2 (1206)
R47, R52	2k2 (1206)
R7, R14, R21	3k3 (1206)
R60	4k7 (1206)
R42, R45, R48, R51	8k2 (1206)
R28, R32	10k (1206)
R4, R11, R18, R55, R56, R57	39k (1206)
R3, R10, R17, R59	100k (1206)
C6, C12, C22, C28, C29, C30	0.001 uF (1206)
C1, C4, C5, C8, C9, C13, C14, C17, C16, C20, C21, C25, C23, C31, C32, C34, C36, C37, C39, C43, C44, C45, C46, C49, C53, C51, C52, C54, C55, C56, C59, C60, C61, C62, C63	0 1 uF (1206)
C7, C15, C24, C35, C38, C42, C50, C57, C58	10 uF 16V SMT TANT
C2	435 pF (330 pF, 100 pF) (1206)
C3, C11, C19,	72 pF (33 pF, 33 pF)
C10, C18	150 pF(1206)
C47, C48	33 pF (1206)
C27, C40	1130 pF (.001, 100 pF) (1206)
C26, C41	315 pF (150 pF, 150 pF) (1205)
0.25 mm Enameled Copper Wire (T1, T2, L1, L2, L31)	
0.125 mm Enameled Copper Wire (L4, L5, L6)	
L4	TOKO 5.9 uH COIL 232CNS-T1044Z 2.2 uH
L5, L6	TOKO 7.99 uH COIL 292CNS-T1044Z 2.2 uH
L7, L8	TOKO 1.5 uH COIL 292CNS-T1044Z 2.2 uH

L1, L2, L3 are FX1115 ferrite beads (JAYCAR) with 10 turns 0.25 mm E.C.W.

L4 (remove original winding, use 0.125 mm E.C.W. and wind 10 turns on both bottom wide dividers then 4 turns each on the next 4 narrow dividers above (they are a tight fit, so wind it on tight) 5.9 µH

L7, L8 (remove top 4 turns from original winding)

L5, L6 (remove original winding use 0.125mm E.C.W and wind 11 turns on both 2 bottom wide dividers then on the next narrow dividers wind 5 turns, 5 turns, 5 turns then 4 turns. The 5 turns just fit to the narrow dividers.

L4, L5, L6, L7, L8 ARE TOKO 292CNS-T1044Z variable inductors available in bulk quantity from Eaton Electrics. They are all 2.2 µH standard and are easily rewound for different inductances.

Please Note : E.C.W. indicates Enamelled Copper Wire.

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Promoting amateur radio – a school Radio Club

Tim Roberts VK4YEH

This article presents a pathway to creating a school amateur radio Club.

As an amateur and a teacher (of maths) I believe that the future of amateur radio is firmly rooted in education. I will leave the merits or otherwise of the current licensing system – we have it and I will work with it for the betterment of the hobby.

I work at Canterbury College, Waterford, near Beenleigh, roughly half way between the Gold Coast and Brisbane. In 2008, Ron Bertrand VK2DQ helped me get four students through the Foundation course. None of these students went any further than getting their certificate, but one is now working towards his Standard call. This year I have five students in a school club, all using the course work from The Radio and Electronics School, working towards a Standard call. Again, Ron has been of immense assistance in this as have been a number of other hams mentioned later in this article.

In the interests of brevity (that is the maths teacher in me) I will present the rest of this article in note form:

Getting started

If you are a student who wants to start a club at your school, find a staff member to help you. Typically he/she will be found in the maths/science area, but this is not always the case.

Student or staff, if possible get the support of a local club or at least local amateurs. In my case Peter VK4KTX has been a great supporter of our club, as has Keith VK4XAK who donated a handheld for us to use.

Talk to your accountant. If you are being paid to run the club then you can write off the purchase of a NEW rig and other equipment over a number of years. There is a minimum value here – a $120 handheld does not cut the mustard, regardless of its merits or how much you use it. You must be able to give evidence in the form of payslips to show that you have been paid for the activity. You will also need purchase receipts for your tax return.

Be sure to include risk assessments. These are very important at my school – as they should be - so make sure you do them properly. Seek help if you are not sure how to write one. Whoever approves your risk assessment will be looking for 'due diligence' – have you identified possible risks and described how you will manage them.

Be prepared for the process to be pedantic – it is in your interests that it is, as your neck will be on the block in the unlikely event that something goes wrong.

Ensure that everyone visiting the school that will be in contact with your club members has the appropriate clearance. Here in VK4, they require a 'Blue Card' for working with children. Find out what your state requirements are and follow them.

Operationally

Be prepared to provide everything. I was lucky enough to scrounge an old stainless steel resuscitation trolley for the 'portable shack'. All equipment sits on this and we wheel it from place to place as required.

Do not plan on a permanent antenna. I use a tripod from a set of workshop lights and vertical antennas for both HF and VHF. Be flexible!

Be prepared to be of no fixed address until you have proven yourself. Our shack is a trolley that sits at the back of the Music Department store room (close to my staffroom, and big enough for the trolley). I wheel it out when we need it.

Be prepared to do a range of activities. In addition to doing theory sessions, I have an antenna construction project planned and we will be playing with fox-hunting later in the year.

Have an operational station at the school on open days demonstrating aspects of the hobby, SSTV, IRLP, voice, and so on. Advertise it well in the amateur community. Plan for it to be a success. Most importantly get your students involved.

Contact other school amateur radio clubs. Our first was Sherbrooke Community School (VK3KID) in late May this year, and we have made arrangements for regular contacts.

Get your club callsign. The ACMA is very receptive. I had a phone call at work to confirm that I was who I said I was, and now we have the call VK4CCR. Involve your students in the operation of the club. One may develop the club website. Keep parents informed. Write regular newsletters with details about what you are doing, specifically mentioning their children.

Print QSL cards for your club. No need to be fancy or in colour - have students design them. Use technologies such as IRLP for long distance contacts using basic equipment. They are an integral part of amateur radio now, use them to your advantage. Keep written documentation of what you do, when you do it and which students are participating. Again you are covering yourself.

Finally, be persistent. The bottom line will always be the mighty dollar. The path to the Canterbury College club has been frustratingly slow at times, but I believe that we now have something worthwhile that will benefit many students in the future.

Please email me at vk4yeh@gmail.com if I can be of any assistance. I am more than happy to help. Good Luck! **ar**

WICEN on wireless watch at Derwent Valley blaze

The Wayatinah fire

WICEN Tasmania (South), assisted by other amateurs, provided support to the Tasmania Fire Service for the Wayatinah fire in the Derwent Valley.

The fire started on 1 February and at 23 February was well contained and being patrolled.

The fire management was 'passed on' to Parks and Wildlife Service Tasmania about mid month, as it was contained in the forest and WICEN was released then.

The fire involved approximately 6,500 hectares. The fire fighting effort was divided into several sectors and had multiple helicopter support.

An incident management team (IMT) was set up at the Tasmania Fire Service training centre in Cambridge. WICEN supplied radio operators for the team.

Covering the period 0600 to 2200, three shifts each day were worked. Some operators undertook 'doublers' or 'triplers'. The job involved contacts with IMT staff, helicopters, and with Tasmania Fire, Forestry and Parks personnel on the fireground. It included message passing, collating weather reports and logging personnel.

Each radio operating team of two included at least one who had completed training arranged by WICEN with the Tasmania Fire Service. This led to the awarding of the certificate of attainment PUAOPE002A Operate Communications Systems and Equipment.

The training recognised prior learning, satisfied by holding an Amateur Operators Certificate of Proficiency, and thus was able to focus on Fire Service systems, procedures and protocols.

The need for the training was highlighted during a previous WICEN activation during the Wielangta Forest fires, and is consistent with the WIA emergency radio operator training initiative.

Those involved were Scott VK7HSE, Peter VK7TPE, Michael VK7FMRS, Chris VK7FCSM, Rod VK7TRF, Ian VK7IR, Cedric VK7CSL, Garry VK7JGD, Steve VK7FAME, Reg VK7KK, Dale VK7DG, Chris VK7FCDW, Clayton VK7ZCR, Brian K7HSB, Warren VK7FEET, and Mark VK7FDMF. They were supported by Stu VK7NXX and Roger VK7ARN, who provided roster planning and administrative support.

Suitable volunteers were being sought to assist experienced operators towards the end of WICEN's tour of duty. **ar**

Photo 1: Scott VK7HSE, working in the radio room at the Tasmania Fire Service training centre at Cambridge, near Hobart.

Photo 2: Scott VK7HSE and Cedric VK7CSL in the radio room.

Photo 3: Michael VK7FMRS on shift in the radio room.

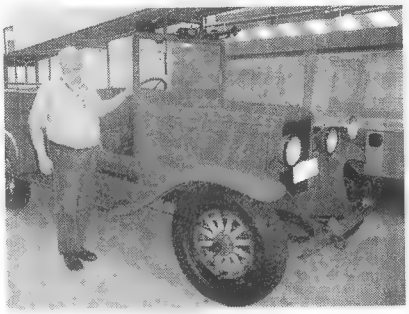

Photo 4: Chris VK7FCDW with a museum piece – the radio room is nearby.

"Hey, Old Timer..."

If you have been licensed for more than 25 years you are invited to join the

Radio Amateurs Old Timers Club Australia

or if you have been licensed for **less than 25 but more than ten years**, you are invited to become an **Associate Member** of the RAOTC.

In either case a **$5.00** joining fee plus **$8.00** for one year or **$15.00** for two years gets you two interesting OTN Journals a year plus good fellowship.

Write to
RAOTC,
PO Box 107
Mentone VIC 3194

Foundation Corner Six

Building a simple field strength meter

Ross Pittard VK3CE
vk3ce@amateurradio.com.au

Ever wanted to know how well your antenna is radiating? Is that rubber ducky antenna from the hand held still any good since you sat on it? Is your transmitter transmitting? Is there more signal from the front of your Yagi or the back?

Do not forget a 50 ohm dummy load will show a good SWR, so what we need is a simple way of determining if power is being radiated from your antenna; the answer is a simple to build Field Strength Meter (FSM).

The instrument described here uses a handful of readily available components, takes around 30 minutes to build, requires no batteries or power supply, and gives indication of RF energy from the HF bands to well into the UHF bands.

The theory of operation is similar to the crystal set which was covered in the Foundation training course. Because the FSM needs to be sensitive from HF to UHF frequencies there is no tuned circuit as in the crystal set; all we are doing is converting RF energy with the diodes into direct current to drive either a DVM or an analogue meter. The DVM model will be a little more sensitive as a DVM has a much higher input impedance than an analogue meter and will not load the circuit as much.

The only critical component is the choice of diodes; silicon diodes are not suitable because of their higher forward bias and germanium or Schottky diodes are preferred to maintain maximum sensitivity of the instrument.

As already mentioned there are two possible ways to construct the FSM; the first is using a digital multimeter (DVM) for the display - refer Photo 1 and the second uses a surplus analogue meter in the range or 50-250 uA for the display - refer Photo 2. I will describe in detail the first method as most people reading this will have a DVM on hand.

As can be seen from the circuit there is not much to it, all the components are available from Jaycar and fit into the smallest diecast box they stock. I used point to point wiring using the RF connector and the pot terminals as convenient mounting posts – refer Photo 3; the junction of the two diodes and input cap were twisted together first and then soldered.

Remember to keep all the leads as short as possible, or alternatively a small piece of Vero board could be used. Please note the orientation of the two diodes. A short piece of screened microphone cable was used for the connection to the DVM, as an after-thought a small piece of Velcro could be used to temporarily mount the FSM to the top of the DVM if necessary.

When using the FSM remember that the readings you obtain are relative to each other and are not absolute readings.

The best way to start out is to set the FSM up on a table in the back yard and adjust the sensitivity pot for mid range. Try keying a hand held radio a couple

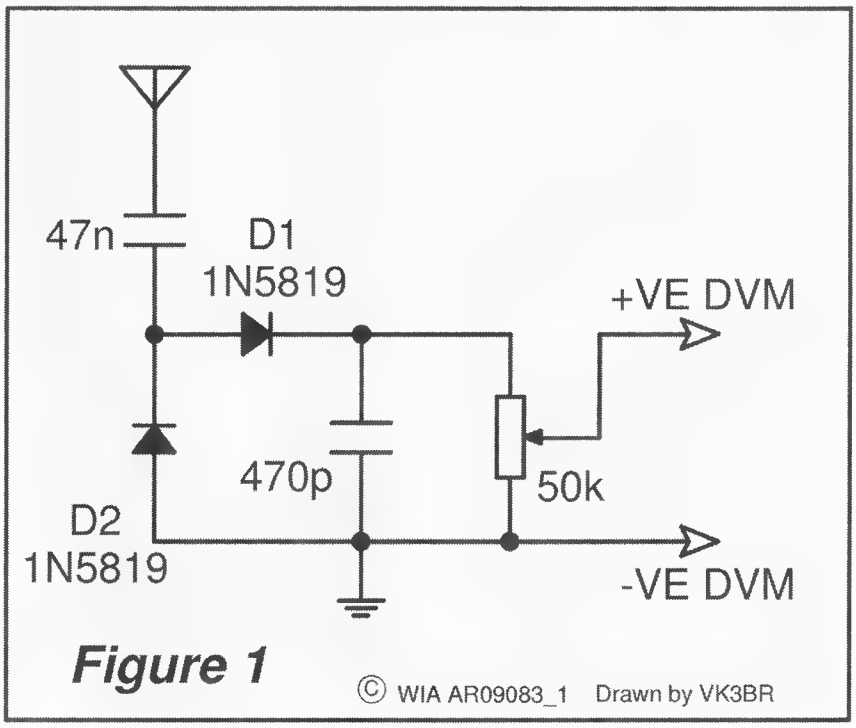

Figure 1: The FSM circuit.

of meters away and the DVM should display a few millivolts; if not adjust sensitivity a little higher or drop the DVM range, expect a reading of around 500 mV for a typical handheld (H/H).

When you have a reading try rotating the H/H aerial into the opposite plane of the FSM aerial and you should note a drop in level displayed. It is best to use an aerial cut for the band you are interested in on the FSM or alternatively try a telescopic antenna and adjust its length accordingly.

For serious comparisons set the FSM and transmitter up a few metres apart and try different antennas on the transmitter without adjusting the FSM and you will quickly see the difference in the radiated fields.

That is it for this month, have fun building and experimenting with the field strength meter.

Photo 2: Using a surplus analogue meter for the display.

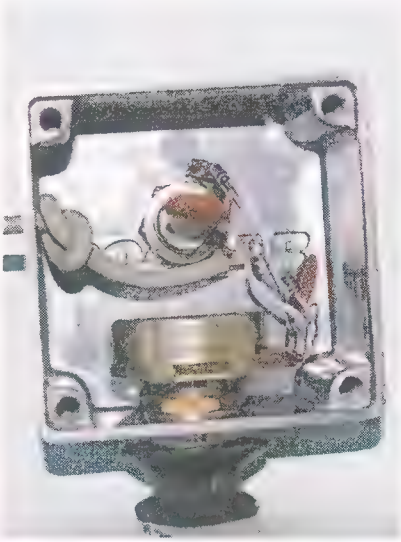

Photo 3: Showing the point to point wiring.

Photo 1: Using a DVM for the display

Parts List

- 2 x Schottky Diodes 1N5819 - Jaycar ZR-1020 or equivalent
- 1 x small diecast metal box - Jaycar HB-5060 or equivalent
- 1 x 50 kΩ pot - Jaycar RP-7516 or equivalent
- 1 x knob, for the pot
- 1 x RF connector to suit (PL259 or BNC)
- 1 x 47 nF ceramic capacitor - Jaycar RC-5356
- 1 x 470 pF ceramic capacitor - Jaycar RC-5332
- 2 x banana plugs, red and black - Jaycar PP-0400 / PP-0402
- Hook up wire, shielded cable, solder, drill etc
- 1 x 50-100 uA analogue meter (if required)

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Book Review:

Radio Communication Handbook, 10th edition

Publisher: Radio Society of Great Britain (RSGB). Edited by Mike Dennison, G3XDV and John Fielding, ZS5JF. Soft-bound, 864 A4 pages, comprising 26 chapters, 2 appendices and a free CD. Shipping weight is 2.5 kg. Cost: 33 UK pounds (about $70).

Unlike the ARRL, the RSGB does not publish a new Handbook each year. This edition, being the 10th since 1938, has been considerably revised and expanded by 24 respected authors.

For instance, the digital communications chapter has been completely re-written to bring it up to date. Similarly, the Software Defined Radio and Microwave chapters have been extensively revised. The Satellites and Space chapter now contains an introduction to radio astronomy.

For the enthusiastic adventurer who also likes to take radio along, there is a new 24-page 'Great Outdoors' chapter, where Richard Marshall G4ERP lucidly describes the techniques and equipment needed for success 'in the field'.

The chapters, with my comments, are:

1. **Principles.** All of the usual electrical, magnetic and radio principles plainly explained. Contains an excellent illustration of balanced and unbalanced transmission lines.

2. **Passive Components.** Lots of clear photos and drawings.

3. **Semiconductors and Valves** (electron tubes). The graphical representation of the various common classes of amplifier is particularly good.

4. **Building Blocks – Oscillators.** Theoretical and practical discourse on the various types of oscillators and signal sources, including phased-locked loops (PLLs) and direct digital synthesis (DDS).

5. **Building Blocks – Amplifiers,** Mixers and Filters. Practical, proven circuits, including some scratch-built linear amplifiers.

6. **HF Receivers.** In-depth treatise on contemporary receiver characteristics and circuitry, including the 'polyphase' method.

The Radio Communication Handbook 10th edition.

7. **HF Transmitters** and Transceivers. Discusses commercial transceivers and home-built projects.

8. **Software Defined Radio.** One of the largest chapters (56 pages). A must-read for anyone interested in SDR.

9. **VHF/UHF Receivers, Transmitters and Transceivers.** Includes plans for a 400 W linear amplifier for 2 metres.

10. **Low Frequencies.** Receivers, transmitters, antennas and loading coils for 136 and 500 kHz.

11. **Practical Microwave** Transmitters and Receivers. Home-brew, kit-form and modified commercial surplus techniques. Includes laser receiver and transmitter plans.

12. **Propagation**. Contemporary paper on this hot topic. Lucid drawings, tables and illustrations.

13. **Antenna Basics and Construction.** Theory and practice for many popular antenna types. Lots of helpful strategies clearly illustrated.

14. **Transmission Lines.** Relevant theory and practice. Good discussion and illustrations explaining standing waves, impedance matching and baluns. The Smith chart is neatly elucidated.

15. **Practical HF Antennas.** Shows that the UK experience (regarding space and height restrictions) more closely relates to our need for effective 'back-yard' antennas. Includes plans for automatic and manual antenna couplers.

16. **Practical VHF/UHF Antennas.** Plenty of established and new ideas for home-station and mobile antennas.

17. **Practical Microwave Antennas.** Ditto. Includes plans for a moon-bounce dish antenna.

18. **The Great outdoors.** New chapter. Obviously based upon a wealth of practical experience in the field. Includes details for a light-weight collapsible Yagi for 2 m and power sources.

19. **Morse code.** Very much alive, confirmed by its use in many amateur radio applications. Salient information on operating techniques, codes, awards, hand-keys, electronic keyers and paddles.

20. **Digital Communications.** Explains principles, through to established and emerging modes, such as Steve VK2XV/ZTO's 'Jason' incremental frequency keying method.

21. **Satellites and Space.** Orbits, tracking, antennas and equipment for satellite working. Contains a list of recommended reading, and an introduction to radio astronomy and moon bounce (on CD).

...the RSGB does not publish a new Handbook each year. This edition, being the 10th since 1938...

22. **Computers in the Shack.** From PC basics to circuit drawing/PCB/simulation, antenna analysis, interfacing, microcontrollers and digital signal processing.

23. **Electromagnetic Compatibility.** Good practical advice on how to prevent and solve interference problems.

24. **Power Supplies.** Components and circuits for conventional supplies. Introduction to switch-mode supplies. Care and application of primary and secondary batteries.

25. **Measurement and Test Equipment.** Analogue and digital meters, component testers. Useful instructions for measuring impedance, SWR, frequency, power, RF current, (relative) field strength, receiver characteristics and transmitter performance.

26. **Construction and Workshop Practice.** Illustrated practical advice for working with common metals and plastics in radio and electronics projects. Construction tips for building enclosures and boxes. How to cut, make holes in, and bend metals with simple tools, fabricate circuit boards and solder components, including experimental board methods.

Appendix A.
Appropriate formulas and tables for radio work, including 10 pages of useful filter tables and calculations.

Appendix B.
Printed Circuit Board Artwork. High-quality positive board patterns for many of the projects contained in the Handbook.

Free CD.
In addition to the Handbook itself, the CD also contains a wealth of information and software for such topics as data modes, logging and station control, antenna analysis, Morse training, mapping, satellite tracking and the Pic-a-Star transceiver.

The many drawings and photos are excellent, and the Handbook team is to be congratulated on a job well done, for this is a 'handbook' in the true sense, and should well serve the dedicated radio and electronics worker for some time. For that reason (and hence my only grumble), it is a pity that this edition is not also available in hard cover.

My copy was purchased direct from the RSGB Bookshop (http://www.rsgb.org), but should be available in due course through the WIA Online Bookshop at www.wia.org.au

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100 YEARS 1910 ~ 2010 WIRELESS INSTITUTE OF AUSTRALIA

The WIA Centenary Committee

Call for Articles

The WIA Centenary Committee wishes to acknowledge further historical material forwarded by members and relatives. This month, the Committee wishes to thank the following:

- Neil VK6NE for the history of the Subiaco Radio Society (1923-70) and for membership documentation from the 1921 and 1924 period.
- Marlene VK3EQ (ex VK5QO) who forwarded a short essay on her late husband, Brian Austin VK5CA. Marlene is the author of *The First 60 Years of the South Australian Division* – a great resource document about amateur radio in South Australia.
- John Risebrow is a historian from NSW who forwarded information about The Veno Park Plaque which honours G.A. Taylor's army communications. G.A. Taylor was the founder of The Institute of Wireless Telegraphy in 1910.
- Marilyn VK3DMS for scanned images of her "communications" stamp collection.
- Robin Bailey (ex VK3ZAO) for a brief history on his father, Christopher Bailey XPD.

All historical material will be used in Amateur Radio magazine or published on the WIA website. Material will be indexed and placed in the Institute's Archive and will be available for all future researchers.

Thank you to all who have contributed to date, but we would like more! Please help us to preserve the history of our hobby by writing something about your club, outstanding amateur or significant event.

The committee also welcomes articles on the future of amateur radio. the changes foreseen, and predictions for our future. Many new modes are being adopted by the more progressive amateur, how are these going to set the stage for the future amateur?

Contributions can be sent to centenary@wia.org.au **ar**

OTY

Around we go again

Dear Sir,
Due to an interest in the "Library Amateur Radio Displays"* (AR Nov. 2005) and an enquiry from NZ, I have started the Displays on their merry way again.
There is a new batch of inquiring minds that have matured over the five or six years since the first round was started and also advancements in amateur radio and electronics have taken place.
I am pleased to have received some complimentary comments but my offer to assist other States is still to be taken up.
Unfortunately I am starting to battle 'Mr.Parkinson' which is interfering with my home-brewing but "them's the breaks".
Graeme Wilson VK6BSL

* This is a series of panels prepared by VK6BSL depicting amateur radio activities. The display circulates in Perth and district public libraries.

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ANTENNAS
Setting a new standard
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23 cm 36 ele 2 m boom N-con	$249
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M B Vert auto switch 10/80 m	$360
40 m linear loaded 2 ele /cap/ hats	$645
5 ele 20 m beam 40 foot boom	$995
6 m 6 ele dual drive 50/54 MHz	384
NEW 2 m/70 cm/10/17 elements Yagi single feed Yagi NBS design	$283
26-29 MHz dual dr 3 ele Yagi	$270
70 cm H/gain 70 cm 3 m boom	$159
2 m 13 ele 6 m boom H/gain	$245

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VK2news

Tim Mills VK2ZTM
vk2notes@arnsw.org.au

100 years old and it all started in a NSW pub

The month has arrived – on the 11th it will be the centenary of the start of an amateur radio movement in this country which today is its national society and the world's oldest.

It has the honour by having commenced in 1910 of being two years ahead of the Radio Society of Great Britain and four years ahead of the American Radio Relay League. It all started in Sydney at a meeting held in the smoking room of the Hotel Australia that was at the corner of Martin Place and Castlereagh Street in the heart of Sydney. The building has now been replaced by the high rise of the MLC Centre.

The meeting had been called by the wireless experimenters of the day who felt that a united front would help in dealing with the authorities. The folowing years had seen the formation of similar groups in the other states. From 1912 there is a call sign list of members of the Wireless Institute of New South Wales with many of the names from the first meeting.

In the early 1920s the various states thought it was time to form a national co-ordinating body. At a meeting of the Wireless Institute of New South Wales chaired by Mr. E. T. Fisk the following motion is recorded in the minutes:

It was decided to write to all Institutes asking them whether they would, in the event of being formed, be willing to join up as a branch of the Wireless Institute of Australia ....

This apparently took a few years as other records show this occurred in 1924 when the National body was formed.

It was known as the Wireless Institute of Australia.

The States became Divisions. In the middle of this period the NSW Division was registered as a company on 26 May 1922.

..two years ahead of the Radio Society of Great Britain and four years ahead of the American Radio Relay League

Fishers Ghost ARC provided the radio side of the recent [22nd] Australian Jamboree under the call VI2AJ2010. 1500 contacts were made, reports Ian VK2MCI and he thanks all who assisted in the operation.

The **Mid North Coast ARG** held their annual Radio Expo in Coffs Harbour in late January with an attendance of 130 advised Gary VK2ZKT President of the group. There was a good selection of traders and displays.

Staying on the VK2 north coast there is the annual **Urunga Convention** on Easter Saturday and Sunday, a function which commenced in 1948.

Then in June on the long weekend – 12/13 – it will be the 35th annual **Oxley Region ARC** field day.

This month for those who take part in field events there will be the **John Moyle** weekend.

Next month there is **International Marconi** day on 24 April. Most clubs have commenced their meeting schedule for the year.

St. George ARS meet on the first Wednesday evening 8 pm at the 1st Kyle Bay Scout Hall. They have a weekly net on their VK2RLE repeater 6800 Thursday at 8 pm followed at 8.30 pm with a SSTV net.

Orange and District ARC meet on the first Friday.

Hornsby and District ARC have resumed their 2nd and 4th Tuesday meetings. Besides their web site, they can be found on Facebook and Twitter under VK2MA. The Friday morning 40 metre net *Morning Tea with HADARC* has clocked up five years. Check that one out on 7104 kHz at 9 am.

In the north **Summerland ARC** has dropped their post box address and mail should now be sent to 414 Richmond Hill Road, Richmond Hill 2480. There is a car boot sale on the 28 March and a Foundation course 13/14 April. Last year the Club had 23 exam candidates who are now licensed. A club active in WICEN they are helping out this month – 13/14 – with a horse enduro at Copmanhurst.

NSW WICEN held their AGM last month. They have reactivated the 70 cm repeater VK2RWS on 438.275. It has a 5.4 MHZ negative offset [432.875] and requires a 91.5 CTCSS tone. It is currently located at Berowra.

The **Oxley Region ARC** will be holding courses early this month – contact via P.O. Box 712 Port Macquarie 2444. In January five Foundation and one Standard candidates became the latest callsigns in the district. Their UHF repeater VK2RPM 8525 has been restored and requires a 123 Hz CTCSS tone to defeat a local triggering signal.

Exams were planned for the western part of the State round **Dubbo** advises Brian VK2WBK from the **ARNSW** exam group. Details via mobile 0400 445 829.

Mid June will be the annual **Waverley ARS** auction.

The **ARNSW Homebrew and Experimenters Group** meets at VK2WI

Dural on the afternoon of the T&T Sunday, the next on the 28 March. There is a monthly evening meeting on the first Tuesday and a net on the third Tuesday at 8 pm on VK2RWI 7000 and on 80 metres 3650 kHz at 8.30 pm.

Clubs and groups are invited to supply material for this column as the printed word is one way of maintaining a historical record of activities. Please send it to the email address at the head on this column.

Those into building equipment will have noticed that DSE is moving out of stocking components. This is a particular disadvantage to those in country regions and some clubs and groups are looking at developing a buying group to source for their members from city based suppliers.

Some others like to source components from kerb side Council cleanups but this 'stock' is likely to dry up as many Councils are no longer collecting electronic items like all those 'computers'. In future households will have to make other arrangements like delivering to collection points, some of which attract a fee. Check your Council clean up notice which came out recently.

Amateur Radio New South Wales is moving into the AGM mode with the meeting scheduled for Saturday the 17 April. Their returning Officer Peter VK2EMU has advised the close of nominations for the committee and agenda item will be Saturday the 6th March at noon at the VK2WI site, 63 Quarry Road, Dural. The next Trash & Treasure is set down for Sunday the 28 March. Check out the web site for major items on offer. It will be conducted out of the facilities in the new shed. What is left in the old shed has to be emptied. No [reasonable] offer refused.

The **ARNSW** web site has undergone some changes, mainly the front page: www.arnsw.org.au Also a series of new email addresses has been introduced and old ones are being phased out. Those in place are office, news, membership, disposals and VK2notes which you follow with @ arnsw.org.au

As outlined at the start of this column it is one hundred years this month since that first meeting. **ARNSW** is able to trace its origin back to that meeting.

Their part in some of the celebrations will be this month with a formal opening planned for the "Shed" on Sunday 14 March. A special call sign – VK2FIRST – has been obtained for the month. Also produced is a commemorative plate and mug which is expected to be available on their stand at the Wyong field day.

When the NSW Division observed the 75th anniversary, a function was held at the VK2WI site and a time capsule was created, hopefully it can be located. With the 100th this would be an opportunity to create another time capsule to span a time period to be decided. Keep in touch with the various celebrations by listening to the Sunday VK2WI news sessions or check the web site.

73 Tim VK2ZTM. **ar**

Midland Amateur Radio Club Inc. VK3CMZ

Radio, Electronics & Astronomy Expo

Midland Amateur Radio Club and Bendigo District Astronomical Society present an Expo during the

Easter Weekend Festival

Old Fire Station Building, View Street, Bendigo
Easter Saturday, Sunday and Monday
April 3, 4 and 5, 2010.

Aim: Promote Amateur Radio and Astronomy to communities within the Central Victorian Region.

AMATEUR RADIO

Morse Code in action. Try your own skills.

Ham Radio Deluxe: One way computers can enhance amateur radio station operation, including associated benefits.

Operating amateur radio stations.

ATV: see how amateur radio operators send and receive their own TV signals.

Antenna models depicting different configurations.

ALARA will be participating in the Expo

Vintage Radio: Display of valve radios from the 1920s, 30s and 40s, all marvellously restored and working.

ASTRONOMY

Astrophotography: see wonderful deep sky images taken with the City of Greater Bendigo Telescope.

Radio Astronomy: what is actually received, and how are those amazing images produced.

Solar Viewing: see the sun as you have never seen it before.

A WIA Centenary Supported Activity

Urunga Radio Convention 2010

Ken Golden VK2DGT

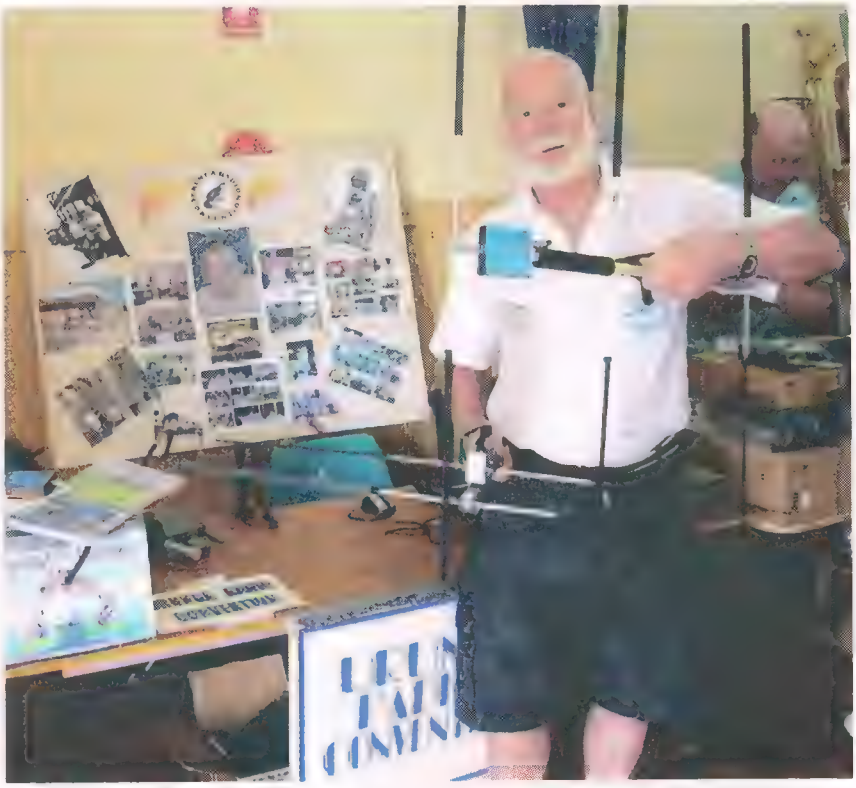
See you at the Urunga Radio Convention, on again this Easter week end, Saturday and Sunday 3, 4 April, 2010 at the Senior Citizens Hall, Bowra Street, Urunga.

This event is the longest running Fox Hunt Field Day in Australia. Two days of Fox Hunting, quizzes, raffles, and pre loved gear and displays. Inquiries welcome.

CHADARC will cater for lunches again this year. Free tea and coffee will be available for those registering. Numbers are required for the optional meal on Saturday night at the Bowling Club – please notify the Committee.

The old cups from the early days are on display at the convention, and other times at the Ocean View Hotel, where some of the early conventions were held. An adjoining lounge is available for those that want to get away from the activities.

Urunga is a quiet village ideally suited to Fox hunting. It is a very relaxing environment on the Kalang River, and has old style charm, which is ideal for families. Close by is Coffs Harbour and Bellingen, or perhaps a drive on Waterfall Way to Dorrigo and the National Park Skywalk, picnic areas and lookouts. Visit the golf or bowling clubs, or walk to the ocean on the meandering footbridge for a spot of surf fishing.



Brian Lacky VK2DLM at Urunga 2009.

Check the Urunga Radio Convention web page http://www4.tpgi.com.au/goldy2/ Urunga info on web, links page, where the rivers meet the sea.

Ken Golden VK2DGT for URC

(krgolden46@hotmail.com) **ar**

Urunga RC - Convention Committee 2009.

GEELONG AMATEUR RADIO CLUB – The GARC

Tony Collis VK3JGC

WIA Summer VHF/UHF Field Day

This year GARC had four teams in the Summer VHF / UHF Field Day event.

Team one: VK3UHF / LUMEG

The location this year was Barabool Hills at QF21CU and covered 50 MHz through to 10 GHz. The multi operators were once again David VK3QM, Chas VK3PY and Charles VK3NX. Once again the weather and band conditions made the scoring less than the previous year.

VK3PY operating during the contest.

Team two: VK3TU, VK3NW

Once again Team 2 was the 24 hour multi operator team of Ken VK3NW and Bert VK3TU operating from Hick Hill QF01wx west of Macarthur.

Their chosen bands were 2 m through to 3 cm and they achieved, subject to confirmation, in excess of 3,000 points.

Like the other teams they also enjoyed the cyclic rain, hail, wind and sun which played havoc with the microwave communications.

Team three: VK3ALB

VK3ALB/P once again ventured to Mt Leura, Camperdown in QF11ns for the Summer VHF/UHF field day. VK3ALB/P was manned by Lou VK3ALB, Nik VK3BA, Jenni VK3FJEN and Michael VK3FMIC. Bands were 2 m, 70 cm, 23 cm, 13 cm, 6 cm and 3 cm. The weather did them no favours with strong winds and driving rain over the weekend. They were, however, luckier than some to the west and north that reported strong winds, hail, torrential rain and in one case a dust storm! They made over 250 contacts during the 24 hour event including a very interesting 10 GHz contact with Russell VK3ZQB where they heard heavy rain scatter. Their longest distance contact was over 580 km on 2 m with Andrew VK1DA.

The now familiar VK3ALB/P Field Day caravan.

Team four: VK3ATL

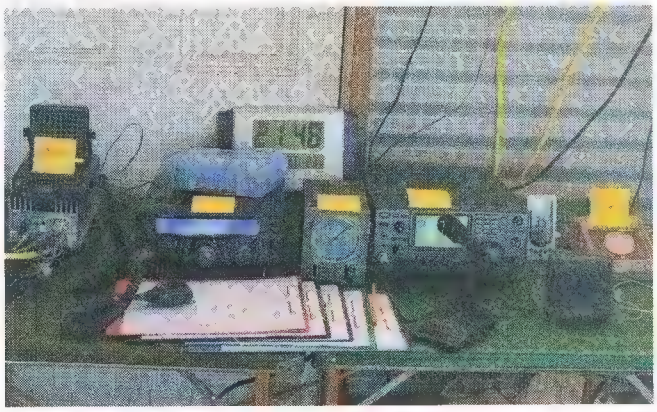
This multi operator team comprised DallasVK3DJ, Tony VK3JGC, Gerhard VK3HQ, Gary VK3FWGR, Vanessa VK3FUNY and Lee VK3PK .The bands covered were 50 MHz to 10 GHz; they operated from a site some 500 m ASL in the Otway ranges, locator QF11ri.

In all 98 contacts were made in the 24 hours of which 7 were on 10 GHz. Subject to confirmation, the team scored a little over 2000 points.

The weather was atrocious. High winds and rain with hailstones alternated with periods of sun shine which woke up the millions of flies that plagued them; this area has the reputation of being the wettest in Victoria.

Although very high up, Tasmania was regrettably blocked off by the surrounding hills. **ar**

Dallas VK3DJ lining up the 10 GHz dish.



Line up of the 23 cm to 6 m transceivers.

VK3news

Ross Pittard VK3CE
arv@amateurradio.com.au

AGM, PRM80s, Repeaters, SK, ESM

AGM

The Annual General Meeting of Amateur Radio Victoria (The Wireless Institute of Australia Victorian Division) will be held on Tuesday 18 May 2010 at 7:30 pm. As St Michaels School is currently being redeveloped, the location will be advised later.

All members will receive by e-mail or post a copy of the Annual Reports shortly. To ensure prompt delivery please notify the office of any changes to your postal or e-mail address as soon as possible.

PRM80

We have a small quantity of the ever popular PRM8030 radios, pre-programmed for the 70 cm amateur band with all repeaters and a number of simplex channels. These are remote head radios 25/5 watt selectable and come with microphone and mounting bracket. They make an ideal mobile rig where space is at a premium. The remote head and radio can be connected with a standard cat5 data lead. Priced at $120 each and available from the office.

The channel plan can be viewed at http://amateurradio.com.au/sites/default/files/PRM80frequencychart.pdf

The hidden costs of amateur repeaters

From time to time we hear about the funding difficulties experienced by clubs who run a repeater often not for the benefit of their own members, but for the wider amateur radio community. In New South Wales the Lands Department is continuing on its campaign of introducing high site lease charges all in the name of cost recovery and getting a commercial return for access to sites.

Similar things are happening in other parts of Australia which are making repeater operators very anxious. Amateur Radio Victoria funds and licences most of the repeaters in its state; the annual ACMA licence fees are nearly $4000.

In addition to this are site fees. Take for instance the Mt William repeater VK3RWZ in Western Victoria; the site fees for this repeater are around $1,000 a year. Recently VK3RWZ was restored to service after a major antenna failure; rigging costs alone were in excess of $5,000 for that job plus the new feeders, aerials and radios.

A considerable number of complaints were received when the repeater was not on air, most came from non members of Amateur Radio Victoria and since it has been returned to service only a couple of loyal and understanding members have expressed their thanks.

Another major new cost for repeater operators is the D-STAR network. Amateur Radio Victoria has spent several thousand dollars to get VK3RMM D-STAR Mt Macedon on air. We now find it has few users, most are not even members of Amateur Radio Victoria. Also with D-STAR comes the monthly expense of internet access for the D-STAR internet gateway.

Most amateurs do not understand the amount of effort made by a small number of dedicated people to continually upgrade installations to meet new commercial technical requirements and the continual replacement program for obsolete equipment initiated by Amateur Radio Victoria.

Do you support the organisation that provides amateur radio repeaters in your state? In Victoria, that is Amateur Radio Victoria, why not join today?

On a sad note

We record the passing of Mark Thomas Dods VK3ZR, a long time leadership group member of WICEN (Vic) whose legacy for that organisation includes its stability and well earned respect within the wider emergency service community.

He received the Emergency Services Medal (ESM) in the Australia Day Honours list, announced after his death. A high award for the contribution of this fine individual, who only agreed to be nominated for it to demonstrate that being a member of WICEN is as valid a contribution as service with any other agency.

The ESM is awarded by the Australian Government for distinguished service by the men and women of Australia's emergency service organisations, and people who are involved in emergency management, training or education.

He received the Emergency Services Medal (ESM)

Log Books

Do not forget we still have stocks of our highly successful log books for the perspicacious amateur who still likes to keeps a paper log (safe from a computer virus or hard disc crash). Contact the office for your copy now, only $10 each.

Foundation Licence Course

Do you know someone who could be interested in becoming a radio amateur? Then please let them know about the next training and assessment weekend on 20 and 21 March. The study and operational practice guide book for the Foundation licence is also available via mail order for $26.00. For inquiries or to enrol contact Barry Robinson VK3PV 0428 516 001 or foundation@amateurradio.com.au **ar**

ALARAnews

Aysha Venugopal VK5FASH

699 entities lead to Hall of Fame

It was a proud moment for ALARA when YL Aola Johnson ZL1ALE and her OM Dave Johnson ZL1AMN were recently inducted into the NZ DX Hall of Fame.

Aola is the only lady in New Zealand on the ARRL DXCC Honour Roll with an impressive 349 entities. She is a member of WARO, CLARA, YLRL, ALARA, BYLARA, and YLISB. Aola's DXpeditions with OM Dave over decades has assisted a generation of amateur radio operators worldwide to obtain that elusive new country with a YL operator.

OM Dave has already inspired a whole generation of amateur radio operators with his list of 350 phone entities on the Honour Roll of the ARRL DXCC program and as the anchorman for ANZA Net for many years. He is also the NZ co-coordinator for ITHE, the International Tour Host Exchange organisation that assists amateurs with accommodation when travelling around the World.

People have been travelling extensively during the holidays and I expect to have some travelogues for the next issue.

Until then, 73. **ar**

Aola ZL1ALE and Dave ZL1AMN

VK4clubnews

Bunya Mountains and District Amcom annual camp-out

Somerset Dam—the weekend of 17 and 18 April 2010

Invitation

Hi to all fellow amateurs and friends.

Each year the Bunya Mountains and District Amcom (formerly the "Dalby & District Amateur Radio Club") and the Sunshine Coast Amateur Radio Club have a weekend get together at Somerset Dam at the Kirkleigh camping grounds.

This year is set down for the weekend of 17 and 18 April 2010, with some proposing to arrive on the Friday evening and leave on Monday to make a good weekend of it.

Your club members and friends are cordially invited to join in the fun and fellowship and enjoy a time of playing around with various aspects of our great hobby amateur radio.

There is plenty of space for activities and we are having a combined BBQ for the evening meal on the Saturday night. We also have a car boot sale, so it is a great opportunity to move some of that pre loved gear, or perhaps pick up a bargain.

The camp site is booked, so we will need to pay at the gate. I will need to know roughly how many will be attending, so if you could canvas your members and friends and see what response you have, and get back to us with possible numbers, that would be very helpful.

Contact:

Neil VK4NF on 07 4662 4950, email: holmzie@bigpond.com

Ricky VK4NRL on 0429 726 833, email: ricklammas@optusnet.com.au

Noel VK4NL on 0413 958 216, email: vk4nl@iprimus.com.au

ar

VK4news

Christopher Comollattie VK4VKR
vk4vkr@wia.org.au

RADAR's new home

Welcome to March issue of AR. Well not too much happening in Queensland at the moment, well not that anyone wants to tell us about anyway. If you have anything going on in the shack, in your local club or even in your neighbourhood that is amateur radio related, tell somebody about it. Let us be proud of our hobby and let people know that we are part of the community. We do exist, we do get out and see the sunlight (do not forget to slip, slop and slap). So what is happening in your part of the radio spectrum?

A new HF net in VK4: 7.093 MHz starting at 0600 UTC.

A new net has started in VK4. Simply called the Afternoon Net it is proving to be a great place to meet up with amateurs from around the north of the state. It was kicked off by Ray VK4NET along with Len VK4CWM as a net where hams from FNQ, NQ and indeed anywhere else can get together for some friendly interaction. Simple guidelines ensure that the net is enjoyable for all who join in. Many and varied topics are discussed along with the latest happenings around individuals shacks. So, if you are free in the afternoons please check in and say G'Day. There is no set net-controller just who ever wants to do the job on the day can chair the group.

TREC

During December Tablelands Radio and Electronics Club (TREC) set up another public display promoting amateur radio in Atherton. Much interest was shown by members of the public. A raffle was also conducted at the same time and the club funds were boosted by quite a tidy sum. Many thanks to Chris VK4YCG, John VK4TL, Dave VK4DK and Stu VK4SDD for manning the display and selling tickets. Also a big thank you to Silo IGA who donated $50.00 towards the first prize ($200.00 voucher for Silo IGA). The winner was Jan Wickham of Tandarra.

RADAR

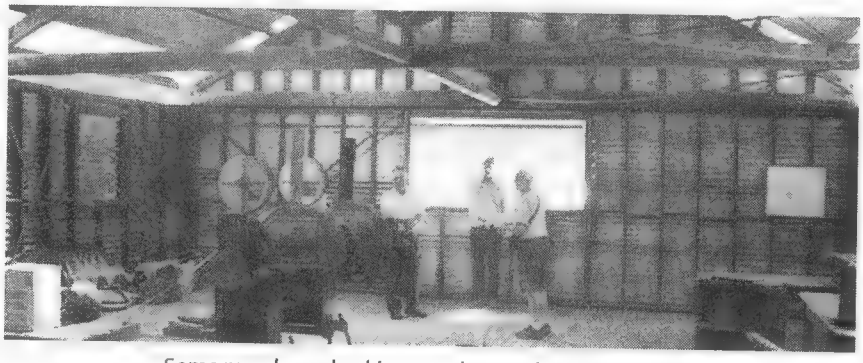
Rockhampton And Districts Amateur Radio Club is making a new shack. In the past, most RADAR meetings have been held at the local SES building in Charles Street, North Rockhampton (and many thanks to the SES for allowing the club to use their premises for our meetings and will continue to do so). However, it is time to build a working shack for operational and display purposes. With the major idea and input from Jeff VK4NJB; his original concept mid 2009 was to attempt to promote amateur radio and it was in his opinion that this was best done aimed at the younger generation. Jeff's initial thought was schools, but this had many disadvantages and limited exposure. By chance, in thinking that being able to reach all ages of the community would be much better, the idea of the Heritage Village began.

One thing led to another and upon approaching Mr Tom Upton of the Rockhampton Regional Council his permission to engage in negotiations with the Heritage Village Committee was sought. A meeting was organised with Mr Bruce Lentell and Mr Paul Frisby who are Senior Executives of the Heritage Village. So on 22 September 2009 The RADAR Club appointed Jeff Brett VK4NJB as liaison officer for the project and he promptly commenced negotiations with Paul Frisby. After much negotiation with Mr Frisby, the club was provided with the last remaining undercover shed at the village. And being very fortunate to be able to get this area it will certainly give RADAR Club the opportunity to become established in the village. With a dusty shed that had been untouched for over ten years a working bee team was created and operation cleanup began. It was indicated to Mr Frisby that the RADAR Club would provide a fully operational working amateur radio station as well as assisting them in the restoration and display of some of their old radio memorabilia.

Jeff is seeking old radio memorabilia that may have a little history with it, or even just an old radio that could be used in the promotion of Amateur Radio, so all donations kindly accepted for display. jcbrett@bigpond.com

Updates will continue monthly throughout the year as "The Village Project" continues in not only promoting amateur radio at The Rockhampton Heritage Village but promoting amateur radio in Australia. Many thanks to Jeff Brett for standing up and taking on this project, and also many thanks to The Rockhampton Regional Council (including The Rockhampton Heritage Village) for allowing the RADAR Club to promote a hobby that we all enjoy.

Until next time 73 Chris VK4VKR
From THE SUNSHINE STATE **ar**



Some members checking out the new home of RADAR.

Morse keys and Northern Corridors

Keith Bainbridge VK6RK

March is upon us, my Tasmanian holiday is nothing but a memory, the contest season is on its way and there are plenty of things to think about on the radio front. The input from the locals is almost non existent this month, the only news is from the last frontier, the north-west!

Over to Steve VK6HV:

There have been a few changes here in the North West since last checking in. The number of amateurs has increased by one with Shane VK6FWCR coming up on air from Karratha. Man, oh man, is he keen to upgrade and get that new 40 metre beam up on his 15 metre tower.

We are now back to three active hams in a 500 mile radius! The shift of our local repeater VK6RWR from the 1970s radio hut to the local mining company's communications building is now complete. This small non air conditioned 2 m x 2 m hut appears to have been built pre construction of Cape Lambert and has housed our trusty Phillips FM828 for at least the last 12 years that I have been in the area.

The last 40 years of summer heat, cyclones and ocean air have taken its toll on the hut and with its pending removal, the local mining company dangled a carrot that we could not refuse. For relocating, we have acquired phased dipoles at about 20 metres, a new run of 25 mm (1 inch) hard line coax up the tower and a used but well taken care of UniLab KL150b VHF radio.

Unfortunately the KL did not have either a Morse IDer or remote control we required so this raised the opportunity to connect my standard feature PICAXE-18X repeater controller to the KL. The PICAXE controller was a project I had been working on in 2008/9. The repeater sounds great and the controller is working well. If you are in the North West, give us a call on 146.700(-).

Michael VK6BHY and myself VK6HV have been experimenting with simple computer-less APRS. It is really nothing more than a simple computer-less system to plonk a symbol onto the map on APRS.fi for the Tiny Tracker™ GPS position encoders located in our vehicles. And being there is only two of us in the North West experimenting with APRS, this is all we are after at the moment.

I am sure we will be onto bigger and better things in the future. 73 until next time, Steve VK6HV.

Thanks Steve, I am up that way for work myself quite regularly, but no one is ever around during the day!

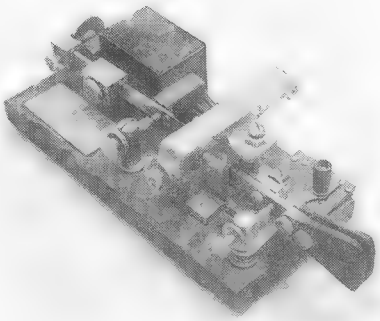
The Hills ARG will have had their annual sale by the time you get this month's magazine and I hope they had a truly successful day, a report to follow next month no doubt.

Northern Corridor open day

On the events calendar for this month is the Northern Corridor Open Day at Whiteman Park on Sunday 14 March. All are welcome and it will be a chance for the club to formally introduce the Neil Penfold State Amateur Radio Centre (NPSARC) to the general amateur population.

It will take the form of a car-boot sale/ sausage sizzle and a guided tour of the facilities and will start at 9 am. Get there early if you want a spot to sell your surplus gear. The original idea behind the Open Day was to celebrate 100 years of the WIA as it is the closest day to the actual anniversary, but the special callsign is not available for another month or so, and they will not be able to take advantage of its use on the special day.

The club station will be in operation (band conditions permitting) and all the radio shacks will be available for inspection and maybe even some DXing.



courtesy www.antiqbuyer.com

I would like to make a request to all amateurs in WA.

I have taken up the challenge to try and establish a Morse key display at the NCRG headquarters for all amateurs to enjoy. For many years the late Dave Couch took his superb display along to Hamfest and I fell in love with some of the old keys he had there. A fixed display at the central area of NPSARC is ideal.

This would join a vintage valve display and a vintage instrument display set up by Neil VK6NE. The keys will be behind glass to stop touching as, after all, they have been lovingly restored!

Do you have a key you would like to loan, not donate, to the display? If so it will be appreciated; it will always remain your property so, when you want it returned, it will be.

On the same subject, please, does anyone know what happened to Dave Couch's collection. If it is still around, or even parts of it are then it would be nice to include those keys in the display where they can be admired. We already have some very rare examples, one from 1921 that is a beauty, so please give it some thought. All keys, sounders and the like offered will be restored if needed before display - if you would like them to be.

Next month's column will see some input from the states various groups. The deadline is the first day of the month.

Thanks in advance for your assistance in WA amateur radio activities and in publicizing them for all to enjoy.

73 Keith VK6RK - vk6rk@wia.org.au **ar**

VK7news

Justin Giles-Clark VK7TW
Email: vk7tw@wia.org.au
Regional Web Site: reast.asn.au

Meet the Voice BBQ
Meet the new ATV desk
Meet the need through WICEN

March 21 is the date set for the 2010 "Meet the Voice" BBQ which again will be held at the beautiful township of Ross in the Tasmanian Midlands. Ross is famous for its convict built bridge over the Macquarie River.

This event is run by the Sewing Circle Net and starts at 10 am and BBQs are supplied, so bring along lunch and enjoy it in great company and "Meet those Voices" you have only heard on the air. Registration is $5.00 per member or member family. Ray VK7VKV has again offered to organise a car boot sale on the day for those with pre-loved amateur radio bits and pieces. See you at Ross.

The view of Ross Bridge from the "Meet the Voice" QTH

VK7 DX News

Congratulations to Rex VK7MO and the many amateurs who made contacts and records with the VK9NA VHF and above DXpedition team. Rex set an SSB record from Hobart to Norfolk Island on 2 metres over a path distance of 2403 km. One of the key aspects of these contacts was that the group used the weak signal application JT65a in the background to monitor conditions, and as they improved, then an SSB contact was attempted.

VK7 Repeater News

Allen VK7AN and Joe VK7JG have been doing their mountain goat impressions again and servicing the Ben Lomond 70 cm repeater VK7RBH on 438.050 MHz which sits at 1570 m. It now has a new antenna and is working well. Joe and David VK7NTD also attended the damaged tower at the Snow Hill repeater site reported last month to find that the SES has totally dismantled the tower. This unfortunately means VK7REC will be off air indefinitely until other options are considered.

Northern Tasmania Amateur Radio Club

Tony VK7YBG has set up a yahoo mailing group for those who might be interested in getting involved in WICEN in Northern Tasmania. If you are interested then head to Yahoo groups and search for "wicennorth" (http://groups.yahoo.com/group/wicennorth/). Tony is looking forward to hearing from you.

Cradle Coast Amateur Radio Club (CCARC)

CCARC held a fund raiser for the club on Valentine's Day in conjunction with the Penguin History Group's Annual Bazaar at the Old Penguin Railway Station and this was a great success. A reminder that the Radio Amateur Old Timers Club news broadcast can be heard in North and North-Western Tasmania on the Mount Duncan repeater VK7RMD, 146.625 MHz on the first Monday night of the month at 8.30 pm.

WICEN Tasmania (South)

During February, WICEN Tasmania (South) provided radio operators for the Incident Management Team located at Tasmanian Fire Service – Cambridge for the Derwent Valley fires. There were two shifts a day covering 0800 to 2200 each day. WICEN have been kept busy these last few months with the Targa Wrest Point tarmac rally and the Hobart Run the Bridge fun run held on Valentine's Day.

North West Tasmanian Amateur TeleVision Group

Access to the VK7AX Packet Radio Gateway and Bulletin Board Systems has changed with RF access to the TNOS Packet Gateway - VK7AX-8 in the Ulverstone area now on 147.600 MHz. The BBS has also been transferred to a new machine and can be accessed using the Telnet protocol. Contact Tony VK7AX if you require access on email: atvgroup@vk7ax.id.au

Radio and Electronics Association of Southern Tasmania

The ATV nights have started again for 2010 in the new larger ATV studio. This has enabled the professional installation of equipment into 19 inch racks, installation of a chroma-key screen, new studio desk and cyclorama (thanks to Paul VK7FPAH) and the reorganisation into a more effective operating and studio space.

We are currently transmitting each Wednesday night (except the first of the month) from 7:30 pm on 444.25 MHz analogue ATV and will soon be moving to digital ATV (DVB-T). Stay tuned for more on this exciting venture. **ar**

Control desk in the new ATV studio.

John Bazley VK4OQ
E-Mail: john.bazley@bigpond.com

DXers' MOST WANTED

As usual we start the year with the results of the 2009 DX Magazine's 'Most Wanted Countries' survey that has now been published.

The survey opened in September and closed October 15 2009. Fortunately for DXers, (but not for the survey), three of the "top 25 countries" had DXpeditions taking place during the survey period. So the results may not be an accurate reflection of the current position.

The FT5GA Glorioso Island operation took place between September 15 and October 7. Next was 3D2OCR on Conway Reef taking place between September 30 and October 8. And finally, K4M, Midway Island, from October 12 to 19.

Some 'Wanted Countries' undoubtedly will be activated this year but there are some in the top 25 that I think we will have to wait a lot longer for amateur activity!

Most Wanted Countries 2009

Rank	Prefix	Country
1	P5	North Korea
2	KP1	Navassa Island
3	ZS8	Prince Edward & Marion
4	3Y/B	Bouvet Island
5	7O	Yemen
6	VK0/H	Heard Island
7	FT5W	Crozet Island
8	FT5G	Glorioso Island
9	FT5Z	Amsterdam & St. Paul
10	VP8/S	South Sandwich Islands
11	BS7H	Scarborough Reef
12	VP8/O	South Orkney Islands
13	SV/A	Mount Athos
14	HK0/M	Malpelo Island
15	VK0/M	Macquarie Island
16	FR/T	Tromelin Island
17	ZL9	Auckland & Campbell Is.
18	KH5K	Kingman Reef
19	PY0/S	St. Peter & Paul Rocks
20	KH5	Palmyra & Jarvis
21	FT5E/J	Europa - Juan de Nova
22	KH4	Midway Island
23	KH9	Wake Island
24	3D2/C	Conway Reef
25	BQ9P	Pratas Island

2009

The biggest falls for 2009 were: KP5 - Desecheo (down 94+ places), VK9W - Willis (88), T2 - Tuvalu (32), VK9M - Mellish (28), TL - Central African Republic (23), FJ - St. Barthelemy (20), H40 - Temotu Province (19) and the United Nations (17).

These falls were undoubtedly due to the operations of K5D, VK9DWX, T27A, T27OU, T2G, VK9GMW, TL0A, multiple DXpeditions to St. Barts, H40MS, H40FN, H40FP and two major operations from 4U1UN.

So what have we got to look forward to this month?

First there is still no news on the proposed trip to TI9, Cocos Islands, that was scheduled for February!

Harry G0JMU has gone to back to Malawi for about three months. Look for him to be QRV as 7Q7HB. His main preference is PSK and CW. QSL direct only via G0IAS.

Cezar VE3LYC will attempt to activate East Pen Island (NA-231), a new one, for three days between 26 and 31 March. Intended callsign will be VY0V. Cezar reminds everyone that an earlier try he undertook with G3OCA in July 2007 was unsuccessful. The outcome of this new attempt will be determined by local conditions, weather and safety factors.

Fancy a trip to Bahrain next year?

The RSGB website, http://www.rsgb.org/news/newsitem.php?id=3, states, this is "a DXpedition with a difference." John Edwards M0JAX is looking for 22 with full licenses to go to Bahrain in February, 2011. The

two-week operation will be from the Intercontinental Hotel with eight stations on the air fulltime, 24 hours a day. The operators will be in three shifts. John is making all the arrangements, travel and accommodation. A preliminary trip will be in February, 2010 to make arrangements for where antennas will go, etc. You can contact M0JAX through England's RadCom offices with your "qualifications," if interested!

The upcoming 3W6C Vietnam IOTA DXpedition will be focusing on the low bands. They are putting up "high-performance antennas" including several four-squares.

They expect these plus an excellent site will allow lots of 80 and 160 contacts, especially with North America and Europe. Look for 3W6C 10 to 18 April , with four stations on the air 24 hours a day. www.3w6c.qrv.ch

Look for Niels OZ8KR from The Gambia where he will be active with the call C56KR from 5 to 24 March. Activity will be on 3.5 through 28 MHz on SSB. He will be running 100 watts and using wire antennas "close to the Atlantic Ocean". This will be a "holiday style operation". QSL via OZ8KR.

Jersey, GJ, will be activated by a Belgian Group, ON4PQ, ON5HC, ON5MF, ON7PQ and ON7USB who will operate CW, SSB and RTTY on 80-10 metres as MJ/OP9X/p from Les Minquiers (EU-099), 31 March to 7 April. QSL via ON4PQ, direct or bureau. They will have a web site active for the operation at http://www.eu099.be

YI9PSE. 3 to 11 April will see activity from Erbil, Iraq by quite a large group including N6PSE, AH6HY, JH4RHF, K3VN, N2WB, N6NU, N6OX, NI6T, W8HW and YI1UNH. Current plans are to have four K3 transceivers and one Flex 3000 and four Acom 1010 amplifiers. For antennas they will be using 2 two element Steppir Yagis, hex beam, Steppir vertical (7-50 MHz) and an inverted L for 1.8 through 7 MHz. Listen for YI9PSE on the following suggested frequencies:

CW - 1824, 3504, 7004, 10104, 14024, 18074, 21024, 24894 and 28024

SSB - 1845, 3780, 7065/7180, 14195, 18145, 21295, 24945 and 28495

RTTY - 7035, 10140, 14080, 18100, 21080, 24920 and 28080

The pilot station for YI9PSE will be Chuck AA6G (aa6g@wildblue.net) who will be handling the West Coast, Don N1DG (don@aurumtel.com) for the East Coast, and Toshi JA1ELY (ja1ely@bb.mbn.or.jp) for JA. The team plans to post their logs during the DXpedition. QSL chores for YI9PSE will be handled by N6NKT.

There certainly has been a lot of activity recently from CE0Z and yet another operation, this time by CE0Z/LA9SN on Robinson Crusoe Island, Juan Fernandez. This is scheduled for 10 to 23 March. Operator Al plans to stay mostly on CW, 80-10 m. www.la9sn.com.

ZS8MI (Marion Island, 1989) and ZS9Z (Walvis Bay, 1990) cards are coming out. ZS6EZ is enclosing notes explaining the delay. The return address on the ZS8MI envelope is: Chris R. Burger (ZS6EZ), P.O. Box 4485, 0001 Pretoria, Republic of South Africa.

Vic EA5YN has announced that he and Elmo EA5BYP and Javier EA5KM are heading to Annobon Island (AF-039) in April 2010. 3C0 ranks number 35 on The DX Magazine's 2009 Most Wanted Survey. The last DXpedition there was 3C0M in October/November 2006. Plans are for activity on 1.8 through 28 MHz on CW, SSB and RTTY, with concentration on CW and the low bands. More details are expected soon as well as a Website. This is certainly high on a lot of wanted lists in Asia/Pacific.

Last minute news:

Mirek VK6DXI has just received a new callsign in Zimbabwe - Z21DXI.

I quote from his e-mail
"I am travelling there on business and my time on the radio will be limited. I will do my best to make as many QSO as possible in my spare time. Overall QSL manager is SP5UAF. But if I will get any cards from VKs via buro, of course I will reply to them same way. Looking forward making as many QSOs as possible....
Expected activity time 5-13.02 2010
73
Mirek VK6DXI now also Z21DXI"

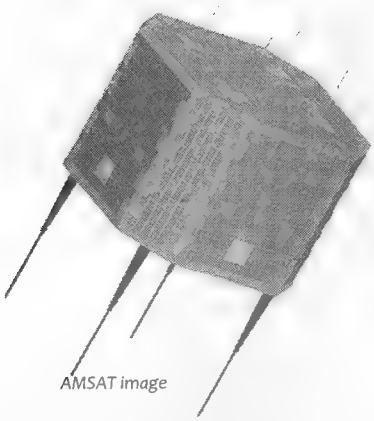
Good luck in the pile-ups until next month.

Special thanks to the authors of The Daily DX (W3UR, 425 DX News (I1JQJ) and QRZ.DX for information appearing in this month's DX News & Views. For interested readers you can obtain from W3UR a free two-week trial of The Daily DX from www.dailydx.com/trial.htm

Martin G3ZAY (left) and G7VJR Michael operating during their recent VK8DMN trip.

David Giles VK5DG
Email: vk5dg@amsat.org

HO-68 China's new satellite of Hope



AMSAT image

Launched in December last year, China's first amateur satellite has impressed many with its range and ability. It is named XW-1 where XW translates as 'hope'. XW-1 was granted an OSCAR number and is designated HO-68 (Hope Oscar).

Description

XW-1 comes from CAMSAT, a non-profit organisation dedicated to amateur satellites in China. XW-1 is in the microsatellite class with a mass of 50 kg. Its shape is roughly cylindrical with a diameter of 680 mm and a length of 432 mm. The solar cells have a high efficiency of 26% and will supply up to 21 Watts. It has lithium-ion batteries with a capacity of 15 Ah.

The 2 m receiving antennas consist of four monopoles configured for left-hand circular polarisation. The 70 cm transmitting antennas are also four monopoles but are configured for right-hand circular polarisation. There are two experimental payloads. One is a physics experiment using multicoloured granules. The other is a CMOS camera for taking pictures of Earth. The launch was also the first time this version of the Long March rocket had been used with two satellites.

XW-1 has been put into a circular, sun-synchronous orbit with an altitude of 1200 km. This makes it the highest amateur FM transponder to date. In comparison this is the same as FO-29 at apogee, but 250 km lower than AO-7. Maximum pass time is 20 minutes and the footprint diameter is 7275 km.

On the amateur radio side there is a mode V/U linear transponder, a mode V/U FM repeater and a mode V/U PacSat BBS. Power outputs are 1 Watt. It also has a 200 mW, 15 wpm CW telemetry beacon that operates continuously on 435.790 MHz.

Commissioning

Since launch to time of writing, XW-1's transponders have been controlled by the groundstation. They are set with timers with activation periods ranging from 13 to 45 minutes. It is still early in the life of XW-1 and the controllers are determining its electrical characteristics so they can work out

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AMSAT-VK

AMSAT Co-ordinator
Paul Paradigm VK2TXT
email: coordinator@amsat-vk.org

Group Moderator
Judy Williams VK2TJU
email: secretary@amsat-vk.org

Website:
www.amsat-vk.org

Group site:
group.amsat-vk.org

About AMSAT-VK

AMSAT-VK is a group of Australian amateur radio operators who share a common interest in building, launching and communicating with each other through non-commercial Amateur Radio satellites. Many of our members also have an interest in other space based communications, including listening to and communicating with the International Space Station, Earth-Moon-Earth (EME), monitoring weather (WX) satellites and other spacecraft.

AMSAT-VK is the primary point of contact for those interested in becoming involved in amateur radio satellite operations. If you are interested in learning more about satellite operations or just wish to become a member of AMSAT-Australia, please see our website.

AMSAT-VK monthly nets

Australian National Satellite net

The net takes place on the 2nd Tuesday of each month at 8.30 pm eastern time, that is 9.30 Z or 10.30 Z depending on daylight saving. The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news. The format also facilitates other aspects like making 'skeds' and for a general 'off-bird' chat. In addition to the EchoLink conference, the net will also be available via RF on the following repeaters and links.

In New South Wales
VK2RMP
Maddens Plains repeater on 146.850 MHz
VK2RIS
Saddleback repeater on 146.975 MHz
VK2RBT
Mt Boyne repeater on 146.675 MHz

In Victoria
VK3RTL Laverton, Melbourne, 438.600 MHz FM, - 5 MHz offset

In South Australia
VK5TRM, Loxton on 147.125 MHz
VK5RSC, Mt Terrible on 439.825 MHz
IRLP node 6278, Echolink node 399996

In Tasmania
VK7AX, Ulverstone on 147.425 MHz

In the Northern Territory
VK8MA Katherine 146.700 MHz FM

Operators may join the net via the above repeaters or by connecting to EchoLink on either the AMSAT-NA or VK3JED conferences. The net is also available via IRLP reflector number 9509. We are keen to have the net carried by other EchoLink or IRLP enabled repeaters and links in order to improve coverage. If you are interested in carrying our net on your system, please contact Paul via email.

Become involved

Amateur satellite operating is one of the most interesting and rewarding modes in our hobby. The birds are relatively easy to access and require very little hardware investment to get started.

You can gain access to the FM 'repeaters in the sky' with just a dual band handheld operating on 2 m and 70 cm.

These easy-to-use and popular FM satellites give hams national communications and handheld access into New Zealand at various times both day and night.

Should you wish to join AMSAT-VK, details are available on the web site or sign-up at our group site as above. Membership is free and you will be made very welcome.

how to get the best out of the satellite. The schedule is regularly published on the AMSAT-BB mailing list and is available on the CAMSAT website.

But if you do not have a schedule to hand, the CW telemetry beacon will tell you what mode it is in. A CW frame consists of "BJ1SA XW XW '13 channels of telemetry' XW XW". The 13 channels of telemetry are 3 digits long using a short form of numbering (where T=0, A=1, U=2, V=3, 4=4, E=5, 6=6, B=7, D=8 and N=9. LUSAT LO19 used the same coding). It is the second channel that has the operating mode information:

TTT = beacon only

TTA = beacon and linear transponder

TAT = beacon and FM repeater and PacSat BBS

ATT = groundstation uploading software

The CAMSAT website has telemetry decoder software and a telemetry specification document.

Linear transponder.

The 50 kHz wide linear transponder is an inverting type (LSB on uplink for USB downlink) with a 1 Watt output. This is similar to FO-29 but XW-1 has a 3 dB advantage by using only half the bandwidth. Uplink is from 145.925 to 145.975 MHz and downlink is 435.765 to 435.715 MHz. Centre of the band is 145.950 / 435.740 MHz.

FM and digital transponder

The FM voice and digital transponder use the same uplink and downlink frequencies. The uplink is on 145.825 MHz and the downlink is 435.675 MHz.

This has created some problems with clashes between voice and digital signals. It has also been found that multiple 67 Hz CTCSS tones will give phasing problems and not be properly decoded at the satellite. Too many trying at the same time and everyone misses out. During voice QSOs it is normal to hear packet bursts between overs.

The digital side uses 1k2 AFSK, same as the ISS and most terrestrial packet. Any CTCSS tone must be turned off. Files uploaded to the BBS are automatically deleted after 5 days. The CAMSAT website has a document on using the Pacsat BBS.

References—Finding Hope

CAMSAT's website is at
http://www.camsat.cn

There is a current operations schedule, brief description of XW-1 and the above mentioned files that can be downloaded.

Mike Rupprecht DK3WN also has a telemetry decoder that can be found at:

http://www.dk3wn.info/sat/afu/sat_xw1.shtml

Correction to last month's article

There was some confusion with the designations of the latest Russian satellites. An email from Alex RW3DZ to Mike DK3WN and cc'd to the AMSAT-BB mailing list has set this straight.

RS-28 is UGATUSAT and has failed due to an electronic malfunction. RS-38 is Tatyana-2 and is operational. Alex also wrote that RS-39 (Chibis) is under construction and may be launched next year, and RS-40 (Yubileiny-2) will orbit this year. Hopefully one of these will have a transponder on board and not just a CW beacon.

So to correct last month's column it should have been:

RS-38 TATIANA-2 (35868)

Launched: 17/9/2009
Status: Operational. RS-38 sends CW telemetry in a similar format to other RS-series satellites.
Mode: -/U CW telemetry
Beacon: 435.490 MHz

Final Pass

I have not had much of a chance to use XW-1 so far. The beginning of the year is always busy and then to be horizontally polarised with the flu for 3 weeks did not help. So far I have heard the beacon several times and some QSOs on the linear transponder and FM transponders. Signals have very good quality and strength. Congratulations to CAMSAT for an excellent satellite. **ar**

GippsTech 2010

EZARC is pleased to announce GippsTech2010. This year the main program will be held on Saturday July 10 and Sunday July 11.

This event has a well-recognised reputation as the premier technical conference in VK, with its focus primarily on techniques applicable in the VHF, UHF and microwave bands, especially for weak-signal contacts.

In addition to the Conference, a Partner's Tour will be conducted, together with an informal social gathering for dinner on Friday and a Conference Dinner on Saturday.

Anyone who presented at GippsTech2009 and has not yet forwarded their material for the *Proceedings* volume will receive a reminder from VK3PF very soon!

Further details can be found at the Eastern Zone Amateur Radio Club web site at http://www.vk3bez.org/

Call for papers

Amateurs (and others with material to contribute) are invited to submit titles and outlines for topics to be presented at GippsTech2010.

Presentation slots can be brief (5 – 10 minutes) through to one hour. Anything longer – you will need to justify!!

Potential presenters are welcome to contact the Chair of the Organising Committee, Peter VK3PF (vk3pf@wia.org.au), direct for further information or to suggest a topic.

ar

Contests

Craig Edwards VK8PDX

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CONTEST CALENDAR

March	6-7	ARRL International DX Contest	SSB
	13-14	RSGB Commonwealth Contest	CW
	13-14	Spanish EA PSK31 Contest	PSK31
	20-21	**John Moyle Memorial Field Day**	**CW/Phone**
	20-21	Russian DX Contest	CW/SSB
	20-22	BARTG Spring RTTY Contest	RTTY
	20-21 (tbc)	European EME Contest (event 1)	CW/SSB
	27-28	CQ World Wide WPX Contest	SSB
	27-28 (tbc)	European EME Contest (event 2)	CW/SSB
April	3-4	Polish SP DX Contest	CW/SSB
	3-4	Spanish EA RTTY Contest	RTTY
	10-11	Japan International DX Contest	CW
	10	European Sprint	CW
	11	HF International Vintage	CW/SSB
	17	TARA Skirmish	PSK31
	17	European Sprint	SSB
	17	Holyland DX Contest	All
	24	**Harry Angel Sprint**	**CW/SSB**
	24-25	Polish SP DX Contest	RTTY

John Moyle Memorial National Field Day Contest

Full details were in last month's column for this event, but here is a brief reminder. The aim is to encourage and provide familiarisation with portable operation, and provide training for emergency situations. The rules are therefore designed to encourage field operation. The contest takes place on the 3rd full weekend in March each year, and runs from 0100 UTC Saturday to 0059 UTC Sunday, 20-21 March 2010. The contest is open to all VK, ZL and P2 stations. Other stations are welcome to participate, but can only claim points for contacts with VK, ZL and P2 stations.

CQ World-Wide WPX SSB Contest

The CQ World Wide WPX SSB Contest is one of the biggest events of the year

and the bands explode into action. If the improved solar conditions from the 2009 CQWW DX SSB contest are any indication, then this year's WPX event should be spectacular.

Now that I have put up a 15 m monoband Yagi, I simply cannot wait for this weekend to arrive. CQWW WPX SSB is on 27-28 March and goes for 48 hours from 0000 UTC Saturday to 2359 UTC Sunday.

Visit www.cqwpx.com/ to view the full rules.

Harry Angel Sprint

Ian Godsil VK3JS Contest Manager announces this event for 24 April 2010. This year marks the 12th Anniversary of an annual Contest to remember VK's oldest licensed operator, Harry Angel.

Please note the time length of the Contest - 106 minutes, Harry's age when he died in 1998.

It is open to all HF operators. The object is to make as many contacts as possible on band the 80 metre band.

Modes:	CW and SSB
Category:	Single Operator
Sections:	CW, Phone, Mixed (please choose ONE ONLY).
Frequencies:	CW: 3500 - 3535 kHz, Phone: 3550-3590 kHz; 3650-3665 kHz
Exchange:	RS(T) and serial number starting at 001.
Score:	Two points per CW QSO and one point per Phone QSO.

Stations may be worked once only per mode. Logs must show time UTC, callsign worked, mode, RS(T), serial numbers sent and received for each QSO. Sending Logs: Email is the preferred method to vk3js@zoho.com

Please note that even for email logs, the entrant's name, callsign and postal address are required, as per the Summary Sheet.

Send Written Logs to Harry Angel Sprint, 121 Railway Parade, Seaford 3198, by Friday, 7th May, 2010. Send summary sheet showing name and date of Contest, name, address and callsign of entrant, category entered, points claimed and a declaration that the rules and spirit of the Contest were observed.

Notes: Please submit your logs as soon as possible after the Contest and do not forget to include your postal address (you never know – you may be a section winner!).

The VKCL logging program covers this contest. This way everything can be kept electronic. Please make this a special effort to commemorate this 12th Anniversary within the WIA 100 Years celebrations.

HF International Vintage Contest

This event takes place on April 11 from 0800-1200 and then 1400-1800 UTC in both SSB and CW. For more information please visit www.contestvintage.beepworld.it/ or contact the contest manager Peter IV3EHH at iv3ehh@iv3ehh.itor

EA RTTY and PSK31 Contests

The PSK31 contest is on 1600 UTC 13 March to 1600 UTC 14 March . Then the RTTY contest is held from 1600 UTC 3 April to 1600 UTC 4 April on the 10, 15, 20, 40 and 80 m bands in the usual band segments.

Spanish stations will provide their province abbreviation but all other countries simply give a incremental serial number starting at 001. The good thing about these events are that each VK call area will count as a multiplier so if propagation allows, the Australian stations should be very popular.

Full details are available at www.ure.es/contest.html.

SP DX Contest

On 3 April at 1500 UTC to 4 April at 1500 UTC the Polish DX contest is held on 160, 80, 40, 20, 15 and 10 m on SSB and CW. Polish stations will provide RS(T) plus a letter abbreviation and all others provide an incremental serial number from 001.

All details are available at www.spdxcontest.info/en/

Japan International DX Contest

The JIDX CW contest is held from 0700 UTC 10 April to 1300 UTC 11 April on all the non-WARC bands.

In this event you can only work Japanese (and JD1) stations and the exchange you give is an RST and your CQ zone number, in return you'll receive an RST and two digit number from 01-50 indicating the stations prefecture number.

In last year's SSB event, I did a SOSB effort on 20 m but found some difficulties in getting the Japanese stations' attention because in the mornings most of them were beaming to USA and then in the afternoon the beams are swung over to Europe. Nevertheless it is a good event to go in, especially if you chase JCC and JCG numbers. Full details are at http://jidx.org/

European Sprint

In these Sprint events, Australian stations can only work Europeans.

The CW Sprint is at 1600 - 1959 UTC 10 April and the SSB Sprint is at 1600 - 1959 UTC 17 April.

The event only occurs on 20, 40 and 80 m with the pilot frequencies being 14250, 7050 and 3730 kHz for SSB and 14040, 7025 and 3550 kHz for CW.

The exchange is your callsign, the other station's callsign, your serial number starting at 001 (no RST required) and your name.

There is a QSY rule where if any station initiates a call (by sending CQ, QRZ?, etc.), the caller is permitted to work ONLY one station on the same frequency and thereafter move AT LEAST 2 (two) kHz before calling another station or before soliciting other calls again (CQ, QRZ?, etc.) .

For full details go to www.eusprint.com/

VHF/UHF – An Expanding World

David Smith VK3HZ
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Weak Signal

It is a short month this month with the AR deadlines being brought back a bit. Nevertheless, there has been a bit happening of interest.

On January 23, a large Sporadic E opening produced some good 2 m contacts. At 0054 Z, Ron VK4DD worked Brian VK5BC over 1567 km. Then followed a series of contacts involving VK4s DD, CDI, JMC, OX, ARN, ACE, WR, EKA and EME with VK5s BC, ZK, NY and DL.

At 0137 Z, Ray VK4LK further north worked VK3AMZ (1730 km) and VK3ZRT. By 0150 Z, the skip had shortened so that VK5BC worked VK2XW (1345 km). After a short lull, the E's moved further south allowing Rex VK7MO to work VK4JMC and VK4DD. By 0300 Z, the band had closed.

On the evening of January 28, tropo conditions were excellent between VK5 and VK6. At 0715 Z, Phil VK5AKK worked Wally VK6WG on 2 m (5x3) and 70 cm (5x1).

By 0930 Z, Brian VK5BC reported that both the VK6REP and VK6RST 2 m beacons were 5x9. He also worked Wally on 2 m (5x9) and 70 cm (5x5). VK5ZK and VK5ACY also had good contacts with Wally.

By the following morning, conditions had shifted, strongly favouring an inland path to Leigh VK2KRR. At 1930 Z, he reported hearing many VK5 beacons and repeaters up to S9+. At 2000 Z, the VK6RST 2 m beacon was heard at 5x1 – a distance of 2675 km.

Soon after, VK6REP (2310 km) was heard at 5x1. He then worked Wally VK6KZ via the VK6RMS repeater (2817 km distance to the repeater). He also worked simplex to Max VK6FN in Manjimup (2821 km). The signal was a stable S5 for nearly an hour, and Max was only running a 1/4 wave vertical with 60 W. Signals were building and at 2115 Z, Leigh worked VK5s BC, AKK, ZK and GF on 23 cm - all at 5x9+ levels.

At 2159 Z, Wally VK6WG in Albany was worked on 2 m at 5x5 over 2648 km. At 2237 Z, they made contact on 70 cm (5x1), setting a new VK2 record. They tried on 23 cm, but were unable to make a contact.

2 m Band Sporadic-E Summary

The season for sporadic E on 2 m is effectively over now. Based on reports logged on the VK Logger since the first Sporadic E contacts for the season, Rex VK7MO has prepared an interesting summary graph showing distances worked via Sporadic E over the season. See Fig. 1.

After the first burst on November 27, there was a lull of three weeks until the next good opening on December 17. The band opened with a vengeance on December 29 continuing each day (except the 4) until January 6.

The longest-distance contact (3182 km) from ZL1IU to VK5AKK occurred on January 5 – probably tropo-assisted sporadic E contact given the strong signals from ZL1 into VK3 at the time. Finally, as reported above, there was a good opening on January 23 reaching to southern Tasmania.

East Gippsland Report

Norm VK3DUT is located between Bairnsdale and Lakes Entrance in East Gippsland. He is a regular on the VHF/UHF bands and sent in a short summary of the highlights for his summer period:

A few brief notes of my operation over last couple of months, between the 'salt mine' commitments of running a small, but very busy, blueberry farm. I do try to get on most mornings for a few minutes for regular A/E contacts to VK1/2 etc. Needless to say, I have also missed a few openings, especially the sporadic-E ones.

The QTH is about 50 m ASL, surrounded with light to moderate bush and rising ground to the west, NW and the east - nothing too drastic but still a very noticeable attenuator, especially at the higher frequencies.

I run 4x7-el light-weight quads on 6 m, 100 W to 4x13-el Yagis on 2 m, 10 W to 4x25 on 70 cm and a single 42-el on 23cm

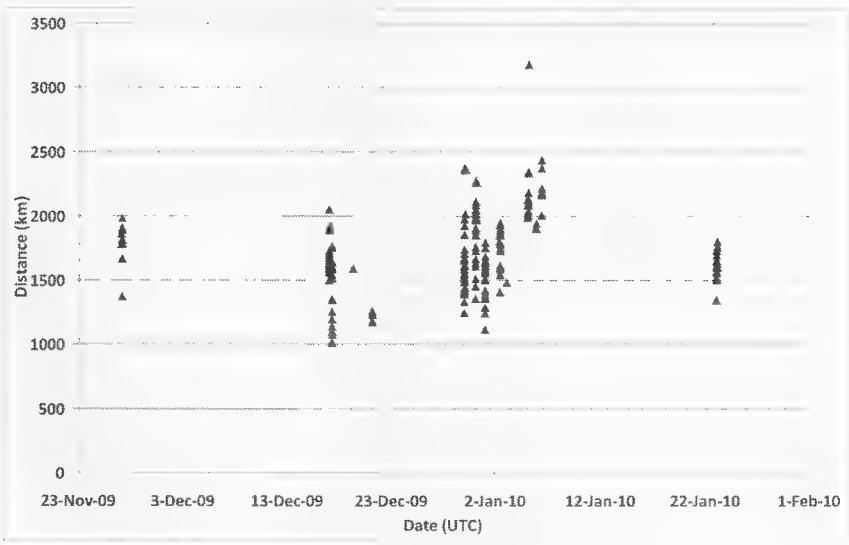

Fig 1. 2 m Sporadic E Contacts

with 40 W. All antennas are homebrew (see photo 1).

Some Log notes:

15/11/09 - heard VK5RSE at 5x5 which is fairly good for this loc and ended up working Russell VK3ZQB on 2 m S9++ then on 1296 at 5x2;

17/11/09 - worked Bill VK5ACY on 2 m on a long M/S burn S9+ both ways;

6/12/09 - heard DL8EBW digi sigs off the moon - first time;

10/12/09 - heard JE6EXN S1-2 off the moon (probably good enough for ssb?);

15/12/09 - VK7AC worked 2 m / 70 cm / 23 cm, VK7MO 2 m / 23 cm,

16/12/09 - VK7AC peaked S9+ on 23 cm, also VK7HDX 2 m and 70 and VK7JG on 6 / 2 / 70 - a very strong duct!;

17/12/09 - VK4BLK 2 m S4-5;

20/12/09 - VK5AKK 5x3, heard 5NY 5x4;

30/12/09 - Troppo & E's, 2 m -VK5DK, VK1BG, VK2ZRE, VK2KOL, VK7MO, VK4s LMB, JOO, FNQ, BLK, BKP, FP, VK7XX, VK7JG.

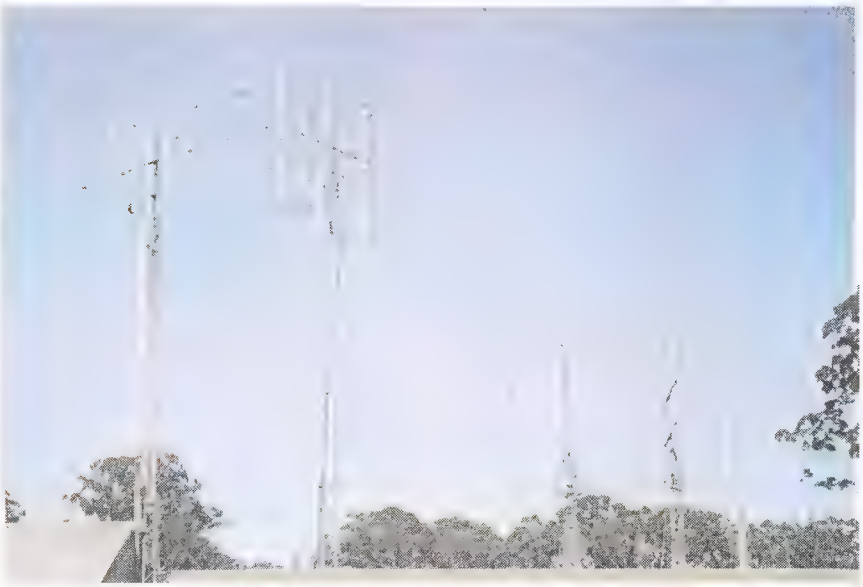

Photo 1. The VK3DUT Antenna Farm

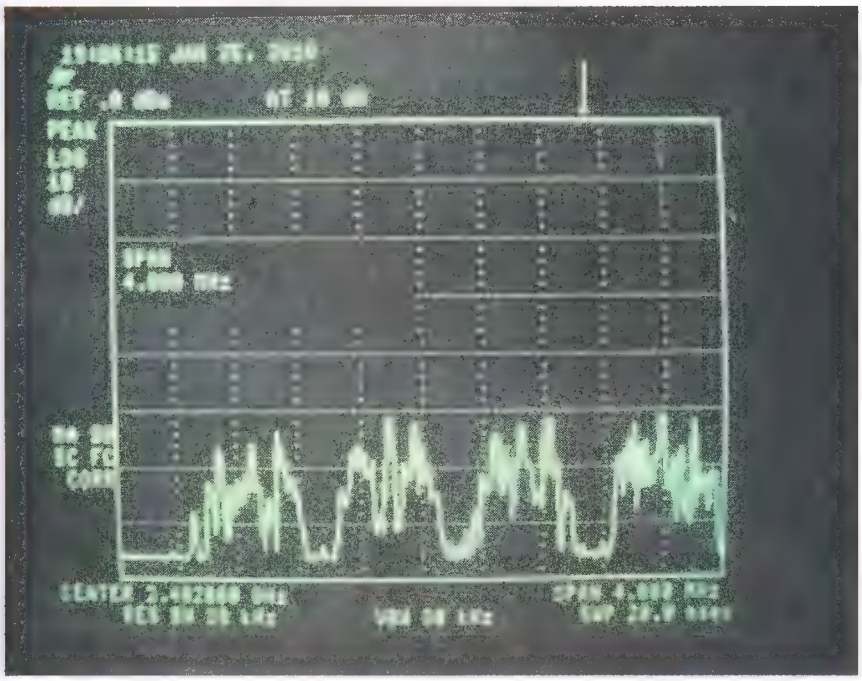

Photo 2: Spectrum – 2400 to 2404 MHz

30/12/09 - ZL1IU up to S9 on 2 m and S1-2 on 70 cm for my first ZL1 on 70 with only 10 w - 2337.5 km, nil on 23 so far;

31/12/09 - VK4FNQ, BKP, FP, EK, MDX, ZD;

5/1/10 - 2 m ZL1IU, ZL1RS E's this time;

20/1/10 - 2 m VK5AKK, VK5NY;

21/1/10 - VK5NY s4-5, VK5VF/b 529

Sadly I missed out on VK9NA (not sure if they worked any VK3), so I still need a VK9 on 2 m. So far, I have worked / confirmed VK1-8 and VK0 (Macquarie) and ZL1 - 4. I am sure VK9 Norfolk, Lord Howe and Willis are within our reach at least on 2 m given the right opportunities as well as FK8 etc. but we will not hold our breath, Hi.

2.4 GHz Band and WiFi Interference

Rod VK4KZR, in the north-western suburbs of Brisbane, has been tapping the ether again with his Spectrum Analyser. He attached it to his 2.4 GHz dish, 12 m up his tower, pointed down the street and then let the Analyser collect data over a 5-minute period in Peak-Hold mode. See Photo 2.

The arrow indicates the standard weak signal operating frequency for Australia – 2403.1 MHz.

Rod's results show that, even though there appears to be a quiet spot around our current focus frequency of 2403.1 MHz, there is lots of noise not far away. In practice, the band is very noisy to the point of being almost unusable for weak signals in a suburban area. So why do we persist with this frequency?

Our frequency allocation on 13 cm extends from 2400 to 2450 MHz. We also have a small allocation from 2300 to 2302 MHz.

We could move operations to 2400.1 MHz, just beyond the bottom of the WiFi allocation. This may not solve all interference issues as there are devices like AV Senders that operate in this area using wideband FM. As well, this area is reserved in the Band plan for satellite operation, although it seems that no active or planned satellites would be operating below about 2400.25 MHz.

The other option, as has been raised before, is to move all operations to the 2300 to 2302 MHz segment. The EME

community is already operating in this area for the very reasons discussed here. The problem with this move is that, for most current operators, such a frequency change would involve more that just a crystal change. Many modern 2400 MHz transverters, such as the Minikits/VK5EME design, use filters etched on the PCB. These filters are too narrow to allow operation on 2300 MHz. So, for many, the frequency change would involve buying/building a new transverter (or using a modified filter design for the lower QRG – Ed).

The other downside to moving to 2300 MHz is that New Zealand - the only country who we could potentially communicate with (terrestrially) on 13 cm – does not have access to this frequency block. The ZLs are currently pushing for their weak signal operations to move down from 2424 MHz to somewhere between 2396 and 2404 MHz.

The WiFi interference situation is only going to get worse. Perhaps we need to bite the bullet and make the change to either 2400 MHz or 2300 MHz before too many more people become active on 13 cm.

VK3ER Field Day setup

Peter VK3QI has been busily improving the microwave capabilities of the Eastern and Mountain District Radio Club (EMDRC) VK3ER Field Day station. VK3ER is a very professionally run station that always scores well in the 24-hour multi-op section of the VHF/UHF Field Days. However, they were missing out on points by only being operational on bands up to 23 cm.

Additions to the VK3ER setup now include:

1296 MHz – 400 W to a 1.2 m offset-fed dish (dual 23/13 cm feed)

2403 MHz – 180 W to a 1.2 m offset-fed dish (dual 23/13 cm feed)

3400 MHz – 2 W to a 0.8 m offset-fed dish

5760 MHz – 2 W to a 0.8 m offset-fed dish

10,368 MHz - 3 W to a 0.8 m offset-fed dish

The 3, 5 and 10 GHz Transverters are mounted at the feed points of the dishes with the common 145 MHz IF, 10 MHZ GPS-locked reference signal and control signals fed up to them.

The antenna mast is pictured – less the 10 GHz dish which is still to be attached. (Photo 3)

Well done Peter, and we look forward to some big Field Day results from VK3ER.

VK1DA Summer VHF/UHF Field Day Activities

Andrew VK1DA sent in this report of his efforts for the recent field day:

Dale VK1DSH and I operated from Mt Ginini for the Summer VHF/UHF Field Day contest. The weather was initially fine but a thunderstorm developed by late afternoon. By about 7 pm this had cleared and the night was eventually clear and relatively mild and even the wind was only slight overnight.

The station was operated on the lower four bands (6 m to 23 cm) and on 3 cm. The 13 cm band was to have been used but a vital component, the feed for the grid dish, had been left at home. By late Saturday

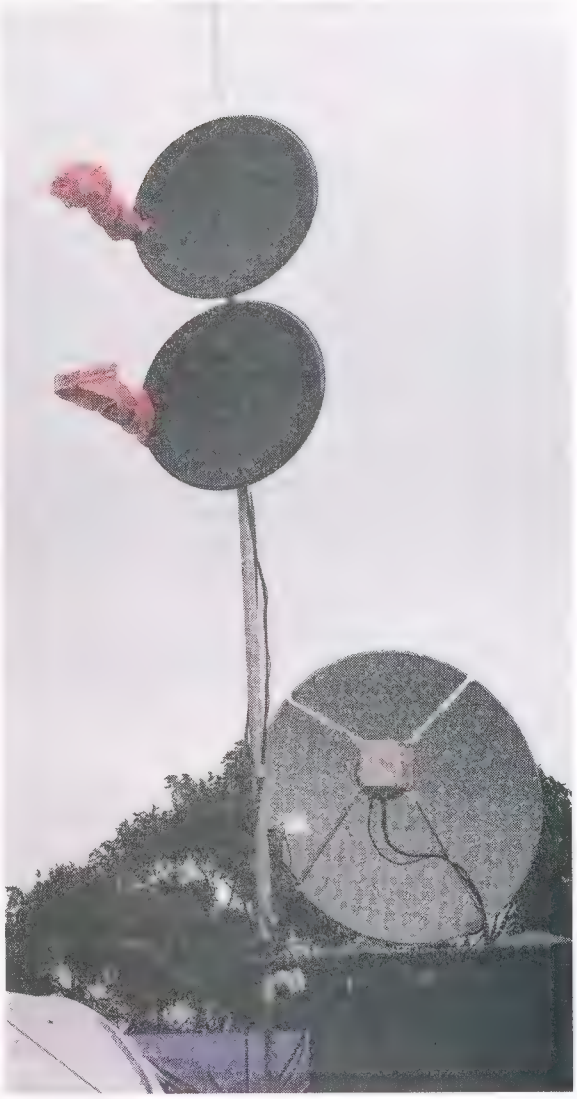

Photo 3. VK3ER New microwave field day mast.

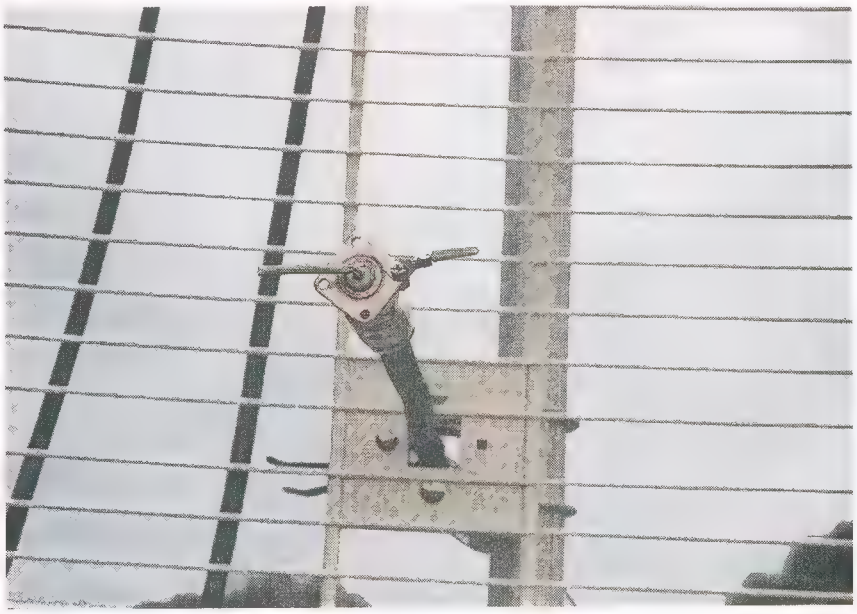

Photo 4: VK1DA's makeshift 13 cm feed.

a replacement feed had been built (see picture) in the hope that it would allow some contacts to be made with the only other station operating on 13 cm, which was Andy VK2AES operating from east of Bungendore. The makeshift feed was put into use on Sunday morning and turned out to be sufficient for a good contact to be made over a 70 km distance. (Photo 4.)

After perseverance and patience from Dave VK2JDS several contacts were made with him on 23 cm after initial easy contacts on 2 m and 70 cm.

The first successful contact with Dave on 23 cm took about 45 minutes of trying various things on both SSB and CW. It is only 272 km - not a huge distance for 23 cm - but the terrain is not friendly and our location on the south side of the hill is not ideal for northerly directions. Then the next morning we repeated that success, which was great.

By the end of the event the log contained about 146 contacts across all bands. Activity was lower than hoped for, which we thought may have been due to the recent intense activity of many keen operators trying to work VK9NA, plus we knew of one rover operation, which unfortunately was not contactable from our location.

The thunderstorm activity in southern VK2 had affected several stations in our region, in particular the Kosciusko operation, and the rain in Victoria also probably discouraged some operations there on Sunday.

Despite this we had an enjoyable time on the hill and I was particularly happy to make the contact with Andy on 13 cm using the makeshift dish feed. Proves the benefit of taking spare cables and connectors to your field events. Dale's 3 cm contacts were also very helpful for our score.

But the main thing is we did get out in the field and had some fun, talked to friends old and new, used the radios and got more experience to make next time even better.

February's Missing Bit

Those reading last month's column may have noticed that a section of it was missing at the bottom of page 17. As this included part of a contributed report, I have included the missing part below:

"... At 0520 Z, Phil VK5AKK worked Wally on 23 cm at 5x1 over 1897 km. At 1030 Z, Mike VK3BDL worked Wally on 2 m (5x2) and 70 cm (5x2) over a path of 2447 km. Wally was also worked on 2 m by Jim VK3II (5x3 at 2483 km) and Graeme VK3GL (5x1 at 2476 km).

The following morning, conditions were good up along the VK2 coast. At 2040 Z, following a JT65 contact, Steve VK2ZT worked Rex VK7MO on 70 cm SSB at 5x6 over 1196 km.

So, a bumper start to 2010 and I am sure there is plenty more to come.

Northern VK6

We do not hear very much, if anything, about weak signal activity in northern VK6. Steve VK6HV located in Wickham, approximately 1600 km north of Perth sent in a brief report on recent activity in the area:

VHF tropospheric ducting has arrived to the Pilbara region in the North West of Western Australia as usual and on schedule. In my 12 years in the townships of Karratha and Wickham, I can not say I remember NOT having numerous openings during the hot and humid summer months. And again, the beginning to this summer has been no different. I've just seemed to take a bit more interest in it this year..."

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au.

Digital DX Modes

Rex Moncur VK7MO

JT65M on Six Metres

During January, a number of stations were seen to be experimenting with JT65M on 6 metres using meteor scatter. In comparison with two metres, the duration of meteor pings are around 9 times (frequency ratio squared) as long and the strength about 27 times (frequency ratio cubed) as much. The longer duration pings allows the use of the slower JT65M mode which works some 15 dB lower into the noise than FSK441 used on two metres. The improved weak signal performance of JT65M combined with the increased signal levels more than overcomes the higher external noise and lower antenna gains at 6 metres and QSOs can typically be completed in 5 to 10 minutes compared to 20 to 40 minutes on 2 metres. Stations seen on the VK logger experimenting with JT65M during January 2010 included, Darrell VK2BLS, Gerry VK2APG, Scott VK4CZ, Brian VK4EK, Phil VK4FIL, Glenn VK7AB and John VK7XX. In line with the WIA band plan stations are using the focus frequency of 50.230 MHz.

Newcastle Channel 5a TV as a Frequency Reference and Propagation Indicator

Back in 2006, Rex VK7MO reported (GippsTech 2006 page 60) that the Newcastle channel 5a TV video carrier provided a very stable frequency reference with a drift of less than a mHz over 2 months on a frequency of 138.276025 MHz (+/- 0.1 Hz). Within a few months of that report the frequency jumped to around 138.276011 MHz and was much less stable. Recently, shortwave listener Todd Emslie reported in the VK logger forum on his method of measuring TV video carrier frequencies to 1 Hz precision using the frame frequency of TV stations in Sydney as the reference. Todd concluded that Sydney's ABN2 and TCN9 are both equally effective as accurate reference sources for the 15625 Hz TV-derived unit, but that TEN10 and (especially) ATN7 are totally useless as reference sources. A comparison with Rex's measurements of Newcastle 5a at the same time showed an error of less than 30 mHz.

In these tests Rex was monitoring 5a video carrier on troposcatter by using Spectrum Lab with a bin-width

of 1 mHz. Rex reports that the 5a video carrier does vary on a daily basis by up to 250 mHz. If we take the nominal frequency as 138.276 MHz then the actual frequency typically varies from 10.7 Hz high on a hot day in Newcastle to 10.9 Hz high during a summer evening and is likely to rise further during the winter. While winter measurements still need to be made it appears that even in its current and less stable condition Newcastle 5a can provide a reference to within 1 Hz based on 138.276011 MHz.

For these tests Rex was monitoring what is a very weak signal via troposcatter over a 1142 km path by using very narrow binwidths on Spectrum Lab and comparing against a double oven GPS (2 parts in 10^11) locked HP synthesizer with a 10 mHz resolution. The multi-pathing on troposcatter introduces spreading of the signal by around +/- 30 mHz so the error should be no worse than 50 mHz. The effect of troposcatter spreading means that narrowing the binwidth below about 100 mHz by factors of 10 does not provide a full 10 dB improvement in Signal to Noise ratio (S/N) as some of the energy is lost. Nevertheless, narrowing from 100 mHz to 10 mHz still gave an 8 dB gain in S/N while a further narrowing to 1 mHz gave only an additional 3 dB. Still for those who might be using Newcastle 5a as propagation monitor it is worth using very narrow bandwidths of 10 mHz or less to find the signal.

The downside of using such a narrow binwidth is that at 10 mHz the receiver must be stable within the bin for 100 seconds.

Unfortunately, Newcastle 5a will close in the next year or so with the conversion to digital and a new propagation monitor and frequency reference will need to be found. VK7 is working on up-grading its beacons with GPS locking. Of course the upside of the closure of channel 5a is that it will eliminate a source of interference for those close to the TV transmitters.

Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au

The Magic Band – 6 m DX

Brian Cleland VK5BC

January continued to be an interesting month on 6 m. Good VK 'E' openings continued with some further interest being added by the Norfolk Island VK9NA and YJ0MM DXpeditions.

Michael VK3KH reports:

The team from the recent VHF/UHF/uWave DXpedition to Norfolk Island always knew six metres would play an important part in our operation, but we were definitely not ready for what eventuated.

Arriving on the island late on January 1, the gear was picked up from the freight company early the next morning, Saturday 2. The six metre gear consisted of an FT897D running 100 W to a 3 element Cushcraft Yagi, 4 metres high. The gear was set up at the accommodation and was operational by 4 pm that afternoon. We scanned the bands, and put out a few calls. Nothing happened, then at 4.25 pm local NI time (0455 Z) on 50.125 out of the speaker jumped Adam VK4CP at 5/9. Then it started... and for the next 3.5 hours Michael (VK3KH) and Alan (VK3XPD) worked 75 stations. This included A35.

Sunday 3 January at 8.30 am local time (yes, that early), 6 metres came to life again and over the next 30 minutes we worked 21 stations. We then went off to breakfast and the Sunday Market. We returned at 10.45 am local and 6 metres was still open. Alan JUMPED back on the mike and almost immediately worked E51CG & 3D2JS, he then continued working stations till noon when we stopped for lunch. Alan, a previous 6 metre sceptic, was definitely enjoying working the pileup.

After lunch we returned to 6 metres and continued working stations until 4.16 pm local time, when the band closed. All in all, an amazing day with 71 stations worked including VK4UH (Kevin, who was to join us several days later) while he was mobile on Bribie Island in his car.

Over the next few days, six metres slowed as the Sporadic E seemed to go into hibernation. On Thursday 7 Kevin (VK4UH) took over the mike and worked 45 stations, including VK6JJ to give us our 7th Australian call area. He also worked a 2010 commemorative station VI2AJ2010.

It was not until the last few days of operation that it returned for one final

Michael VK3KH and Alan VK3XPD working 6 m from Norfolk Island

blast. We had several hours of 6 metre openings with another 70 contacts added. I guess that was as it should be, as we were there to work other higher bands as well.

In Summary, after 10 days of operation, VK9NA had worked 6 countries and 61 grid squares for a total 261 contacts on 6 metres. Call areas include A35, E51, 3D2, ZL1, 2, 3 & 4 and VK1, 2, 3, 4, 5, 6, 7 & 9.

The longest distance worked was to VK6JJ, at a total of 4922 km. For many of those contacted it was their first on 6 metres to VK9N. A good result for everyone. Thanks to all who worked hard to contact us.

Late in the month another DXpedition using the callsign YJ0MM took place from Vanuata and it was great that they activated 6 m. Adam VK4CP was again alert and first to work them on 25 January.

Contacts were then complete with ZL4LV, ZL1RS, ZL3NW, ZL3JT and finally with Norm VK7AC. Australia Day 26 January proved better with several contacts into VK4 and then extending to VK3 and eventually contacts into VK5 with contacts complete with VK5s BC, ZK & PJ up to 5/3.

The 27th was also successful with several contacts being completed into VK4 including northern VK4, VK2 and again VK3 and VK5NY. They also completed a contact with Paul A35A in Tonga.

The above again showed that many contacts are possible into the Pacific Islands areas and it has been great to have at least a couple of DXpeditions activate 6 m.

Meanwhile Paul A35A from Tonga continued to regularly work into VK/ZL and logged the following:

1 January

VK5ZK 50.110 CW 529, VK4WR 50.110 USB 55, VK4CZ 50.110 USB 59, VK4EK 50.110 USB 57, ZL1AVZ 50.110 USB 57, VK2DJ/P 50.110 USB 55, VK4FI 50.110 USB 57, VK4ADC 50.110 USB 53, VK4KLC 50.110 USB 57, ZL1AVO 50.110 USB 55, VK4CAG 50.110 USB 55, VK4HG 50.110 USB 55, ZL4PW 50.110 CW 539.

2 January

VK9NA 50.125 USB 57, VK2HN 50.110 USB 59, VK2APG 50.110 USB 59, VK2ZQ 50.110 USB 55, VK2IR 50.110 USB 57, ZL3AAU 50.110 USB 57, ZL3NW 50.110 USB 57, ZL3ADT 50.110 USB 55, VK2PB 50.110 USB 55, VK2JDS 50.110 USB 55.

3 January

VK2FAD 50.110 USB 55, VK4AHW 50.110 USB 59, VK4DDC 50.110 USB 59, VK9NA 50.110 USB 59, VK2BA 50.110 USB 59, VK4MA 50.110 USB 57, VK4DD 50.120 USB 55, VK4RY 50.120 USB 55, VK4HJ 50.120 USB 55, VK4CWJ 50.120 USB 33, VK4KAC 50.120 USB 55, VK4BEG 50.110 CW 339.

7 January

ZL3AAA 50.110 USB 57, ZL3JT 50.110 CW 559, VK7GK 50.110 CW 549, ZL3NW 50.110 CW 579.

8 January

VK7XX 50.110 CW 599, VK7GK 50.110 USB 55, VK7XX 50.110 USB 59, VK3DUT 50.110 USB 59.

14 January

VK2BCC 50.110 CW 559.

22 January

VK3AUU 50.110 CW 538.

27 January

YJ0MM 50.110 USB 53, VK4DD 50.130 USB 57, VK4NA 50.130 USB 55, VK4CZ 50.130 USB 57.

28 January

ZL3NW 50.110 CW 539, VK2BHO 50.110 CW 559, VK7AC 50.105 CW 579, VK6KXW 50.105 USB 43, VK6RO 50.105 USB 33, VK6JJ 50.105 USB 53.

Well done Paul and good to see the month ending with contacts into VK6 (7000 km).

Willem DU7/PA0HIP in Lapu-Lapu City, Philippines continued to look for VK/ZL most days and was rewarded with some good contacts into VK2, 3, 4 and 5 on the 25 January. Willem also worked Norm VK7AC on the 29 January.

Victor E51CG Raratonga, South Cook Islands also worked into VK several days during January. On the 1 January Victor worked Garry VK5ZK, Roger VK5NY and Graeme VK4CAG then on 2 and 3 January worked several VK2 and 4's and VK9NA. On 4 January Victor had a good opening into VK7 working several stations including John VK7XX, Norm VK7AC, Laurie VK7ZE, Joe VK7JG and Dave VK7AAD and then conditions moved north and Victor worked Russell VK4BEG in Malanda, Col VK4CC and VK4HJ. Things then went quiet for Victor until the 27 January when the band opened early in the morning with good contacts completed into VK2, 4 and 5.

Dave VK9WBM Willis Island was also worked from VK2 and 4 on 3 January and on 7 january Dave managed good contacts with VK5ZK, VK5GF, VK5BC/p and VK7XX, VK7AC and finished the day working VK6OX and VK6SIX. On the January Dave worked into ZL3.

Although there were some quiet days good local VK/ZL Es continued throughout the month. Although it had been a reasonably quiet summer on 6 m for VK6, late in the month there were some good openings from VK6 to the eastern states and ZL with a good opening on 30 January to ZL1, 2 and 3.

Please send any 6 m information to Brian VK5BC at briancleland@bigpond.com

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Point of contact: Tony Roskilly G3ZRJ

g3zrj.morsekey@btinternet.com

Information about Portishead Radio can be found at:

http://www.gka.btinternet.co.uk/

Do not miss the opportunity to participate in this unique event and get the certificates and card to show your involvement.

Robin Harwood VK7RH

Haiti shattered, Darwin closed, RA goes Palau

2010 must be an extraordinary year!

A massive earthquake hit Haiti on 12 January. The capital city of Port-au-Prince was completely flattened and over 150,000 people were killed and over half a million or more are homeless. Communications were severely disrupted and shortwave became the primary means of short-term communications because of the damage to the existing infrastructure. Several major international broadcasters quickly established programming in Creole, which is a local French dialect.

The Voice of America in Washington increased their output in both standard French and Creole, mostly for rebroadcast via local FM outlets.

They also commenced relays from airborne FM senders, utilising the same teams that were involved in the psyops operation in Afghanistan. The shortwave broadcasts were added in to cover the whole nation.

The BBC World Service also commenced broadcasting mostly in English and Spanish with some Creole input. However these did not come from London but Miami in Florida. Apparently the "Beeb" has been broadcasting to Latin America in Spanish from there without any fanfare. I believe that the BBC World Service has already commenced broadcasting in Hindi and Urdu from New Delhi, instead of Bush House in London. Programs in some African languages will also be from an unknown West African nation.

The former Radio Australia site near Darwin closed down on the 31 January. It had been leased by Christian Voice, an English evangelical group with shortwave senders in Zambia and Chile. There is no word as to what will happen to the site yet; there are indications that the remaining senders and antennas will be dismantled.

Radio Australia has been using Darwin to relay programming in Chinese, Indonesian and recently Burmese and hurriedly scrambled to find senders to relay their programs. Spare capacity was quickly found on the World Harvest Radio site in Palau as well as in the United Arab Emirates. Radio Australia has been using Taiwan and Singapore to complement their Shepparton output.

I was very saddened to hear of the recent death of Ted Carter, who was at one time VK7EC. I met him 50 years ago at the Northern branch of the WIA. Ted was a monitor for some major international broadcasters and he encouraged me when I started out listening on shortwave.

In fact I obtained my first copy of the World Radio TV Handbook circa 1960. He helped me identify a Filipino AM station on 570 kHz, which I heard when 2YA in Wellington went silent around 1100 Z. From memory it was DXWW but it was difficult because of a persistent frying noise on the channel. Ted identified it as coming from a fluorescent tube and I recollect getting into hot water with my parents because I was forever turning it off. Sadly 2YA eventually went 24 hours and I never was able to hear DXWW again.

Radio Australia

Here is the schedule for the additional Radio Australia transmissions from the new sites from T8WH Palau. HBN refers to its former callsign of KHBN. Palau used to be part of the American administered Mariana Islands and the FCC still co-ordinates frequency planning.

2200-2400 on 12040 HBN 100 kW / 270 deg to SEAs (in English)

0000-0030 on 15225 HBN 100 kW / 270 deg to SEAs (in Indonesian)

0100-0130 on 15655 HBN 100 kW / 270 deg to SEAs (in Burmese)

0400-0430 on 15780 HBN 100 kW / 270 deg to SEAs (in Indonesian, also not 15785)

0500-0530 on 15590 HBN 100 kW / 270 deg to SEAs (in Indonesian)

1600-1630 on 9965 HBN 100 kW / 270 deg to SEAs (in Burmese, not Chinese)

1300-1430 on 9890 HBN 100 kW / 318 deg to SEAs (in Chinese)

Radio Australia via the United Arab Emirates is:

UAE additional frequencies of R Australia via Al-Dhabbaya:

2200-2330 on 5935 DHA 250 kW / 105 deg to SEAs (in Indonesian)

2300-2330 on 5955 DHA 250 kW / 090 deg to SEAs (in Burmese)

1100-1300 on 17880 DHA 250 kW / 090 deg to SEAs (in English).

These frequencies would be valid until the 29 March when the A-10 broadcasting period commences.

March 29 is when major changes come into effect, coinciding with commencement of Summer time in Europe. This period A-10 will last until September 25. I do expect that there will be more broadcasters scaling back their shortwave output due to reduced audience numbers. Radio Prague has been saved yet will be restricted to a single transmitter and a cutback in programming output.

Here is an interesting piece of nostalgia on the Web. Interval Signals from the past can be heard at http://garlinger.com/QSL/montage.mp3 You will be shocked as I was at the number of famous sounds that have disappeared from the ether. A lot of memories for sure.

Well that is all for now. Until next time, good monitoring! **ar**

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Ted Thrift VK2ARA, vk2ara@wia.org.au

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Ian Westerland VK3VIN, Box 4087, Geelong. Vic. 3200, or 03 5274 2237 or mobile 0407 837 068.

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Emtron EAT 2000, 2 kW tuner.

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MFJ-269 HF/VHF/UHF antenna analyser and manual.

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Alinco 435T 50 W 70 cm FM TX, with manual. Never used.

Gold Star 60 MHz dual channel CRO, SN 90100561, with manual - has time delay features.

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Contact Colin VK5ACE on 08 8396 6919 QTHR.

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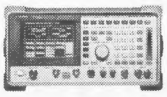

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VK5news

The Summer VHF – UHF Field Day

Dale Loffler VK5LD

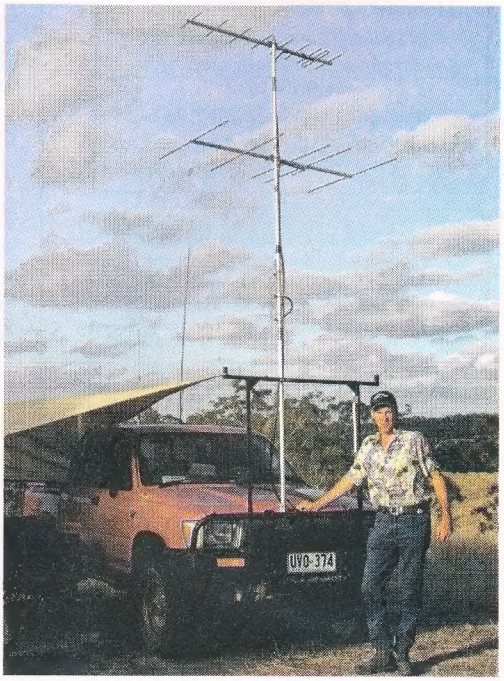
I operated a one-out portable station in the Summer VHF/UHF field day, from a spot near Spring Gully Conservation Park in the Clare Valley, about two hours north of Adelaide.

In the 24 hours I made 138 contacts on this my first attempt. The weather was quite pleasant but it did get cold during the night, and more blankets would have been nice. There was a small passing shower of rain on the Sunday morning.

Propagation varied but was fairly restricted to local stations up to 200 km with no DX reported, not even on six metres. I was particularly pleased to make 21 contacts on 23 cm, which was a new band for me.

The antennas used were a five element Yagi on 2 metres, a nine element Yagi on 70 cm and a quadruple diamond antenna on 23 cm, all homebrew. They were rotated by a rotator mounted on the bull bar powered by an inverter. There were also verticals on the roof of the vehicle for 6 metres, 2 metres and 70 cm.

My radios were a Kenwood TS-2000X, Icom IC-V8000 for 2 metres FM and a Wouxun handheld with linear amplifier for 70 cm FM.



The vehicle, with the portable 'shack' to the left, and the operator Dale VK5LD.

Dale VK5LD meets Clare Valley

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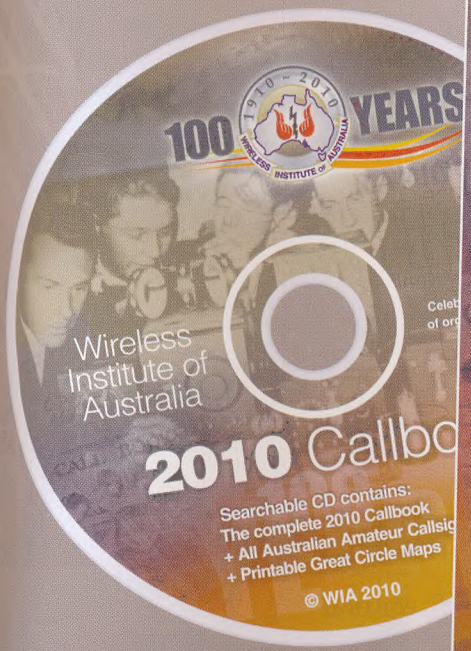

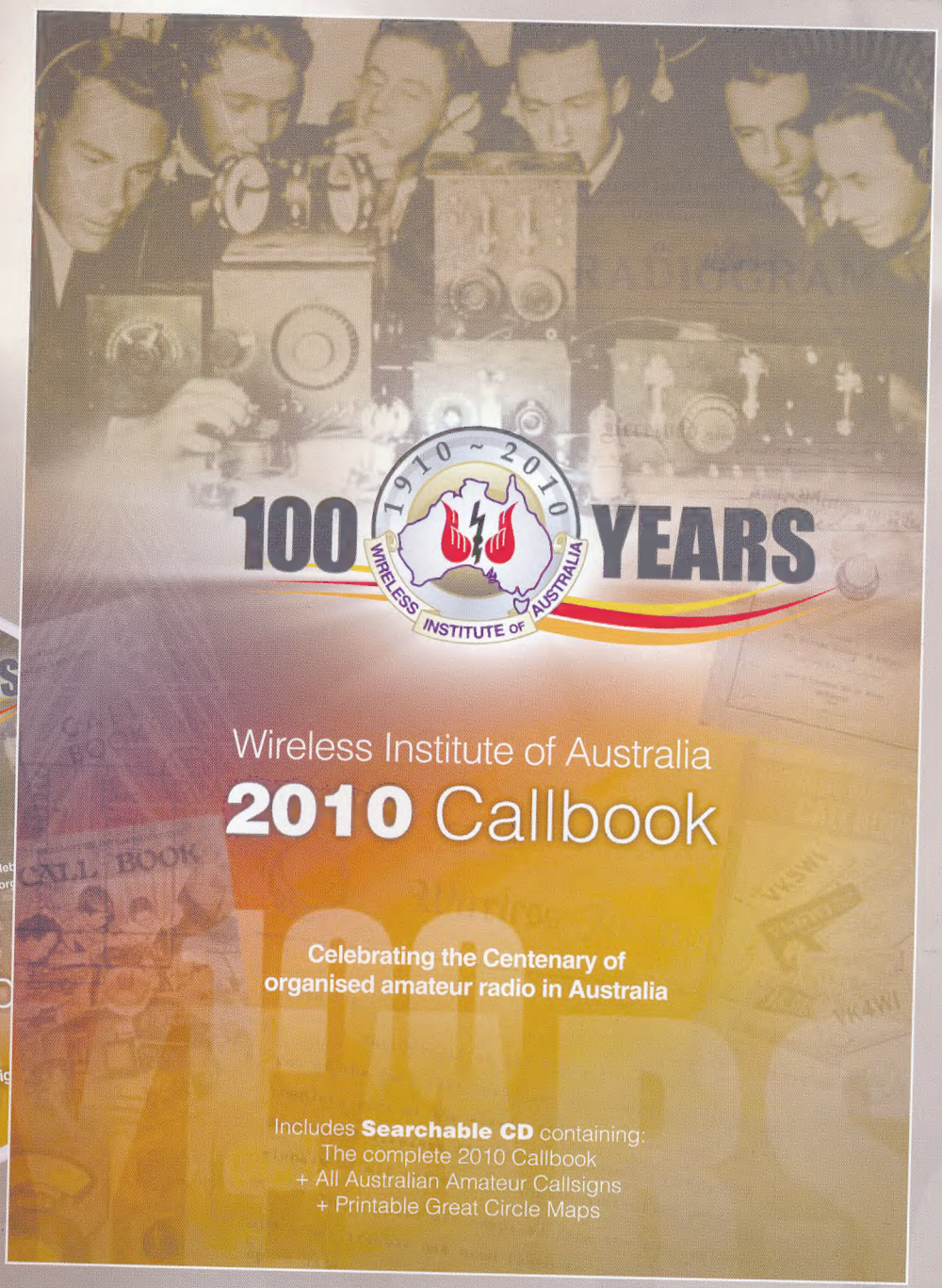

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